

**Comments on the Draft Chesapeake Bay TMDL**  
**Docket ID No. EPA-R03-OW-2010-0736**  
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The agricultural and forestry organizations listed below are pleased to file comments on the Draft Chesapeake Bay Total Maximum Daily Load (Draft TMDL), released for public comment on September 24, 2010, 75 *Fed. Reg.* 57776 (Sept. 22, 2010) (Docket Number EPA-R03-OW-2010-0736) (hereinafter Draft TMDL).

The undersigned – or their members – own and operate facilities that produce or contribute to the production of the row crops, livestock, and poultry that provide safe and affordable food, fiber, and fuel to Americans all across the United States. Some of these facilities are located on or near the waters of the United States, and some are located within the 64,000 square mile Chesapeake Bay watershed. These facilities include those that hold individual and/or general permits for the discharge of pollutants into water; facilities that are subject to regulatory requirements for nutrients under state law; facilities that are participants in nutrient management programs supported by the state departments of agriculture or by the U.S. Department of Agriculture; and facilities that undertake voluntary action to control runoff of nutrients and sediments without participating in or reporting to a formal state or federal program. Those with facilities located in the Chesapeake Bay watershed would be directly affected by the Draft TMDL. In addition, the undersigned have a direct interest in any precedents that may be established by the U.S. Environmental Protection Agency (EPA) that may have national implications with respect to federal control over TMDLs and TMDL implementation.

EPA acknowledges that the “Chesapeake Bay TMDL is the largest, most complex TMDL in the country, covering a 64,000-square-mile area in seven jurisdictions.” Draft TMDL, at 2-7. EPA is proposing two separate sets of load allocations and waste load allocations for three pollutants in 92 water body segments. Thus, the Draft TMDL is, in fact, 552 TMDLs.

The allocations that make up the Draft TMDL are based on a version of the Chesapeake Bay watershed model (5.3) that has only been functional since June 2010. Parts of this model update were made available for public review on June 2, 2010. As discussed below, other parts of this model are not available for public review. For example, scenario data and scenario results are unavailable to the public. See <http://ches.communitymodeling.org/models/CBPhase5/index.php>

(accessed Nov. 8, 2010). Yet, these scenario data and scenario results are driving the policy choices in the Draft TMDL.

On November 2, 2010, six days before the end of the comment period for the Draft TMDL, James Curtin of EPA's Office of General Counsel made links to the scenario data and scenario results available to four persons, via an email. However, those links are not made available in the administrative record for the Draft TMDL and are not on EPA's website for the Draft TMDL. As discussed below, the November 2, 2010, email from Mr. Curtin does not cure EPA's failure to provide the public with notice of and a meaningful opportunity to comment on the Draft TMDL.

Furthermore, EPA has admitted that its model is flawed and that it plans to make changes to the model in 2011. *See* letter dated June 11, 2010, from Shawn Garvin, Regional Administrator, EPA Region III, to the Principal's Staff Committee.

Even though EPA knows that its target loadings are inaccurate, EPA nevertheless has required (using threats of retaliatory actions) the six states in the Chesapeake Bay watershed and the District of Columbia (collectively referred to as watershed jurisdictions) to develop implementation plans for these inaccurate loadings in a very short period of time. The target loadings for phosphorus and sediment were provided on July 1, 2010. The target loadings for sediment were made available to watershed jurisdictions on Aug. 13, 2010. EPA then demanded that watershed jurisdictions submit implementation plans based on these inaccurate loadings by Sept. 1, 2010, allowing 62 days to develop plans for nutrients and only 19 days to develop plans for sediments, to implement what EPA acknowledges is the largest and most complex TMDL ever attempted.

By turning the TMDL program on its head and requiring implementation plans before the TMDL is issued, EPA is using that information to incorporate implementation measures into the Draft TMDL, even though implementation measures are not lawfully part of a TMDL. Thus, the TMDL that EPA made available for review on Sept. 24, 2010, consists not only of wasteload and load allocations, but also consists of detailed implementation instructions directed at the watershed jurisdictions.

Adding implementation measures has only added to the complexity of the Draft TMDL. The Draft TMDL consists not only of the 370 pages of the Draft TMDL document, but also the 1672 pages of the 22 appendices, as well as the technical analysis and modeling information that is referenced throughout the draft TMDL. We have not attempted to quantify the volume of that supporting information.

Despite its acknowledgement that the Draft TMDL is the most complex ever attempted, EPA is allowing only 45 days for public comment. The undersigned organizations believe that 45 days is insufficient under the APA to provide for meaningful public comment. The Metropolitan Council of Governments (the District of Columbia) and 20 other local governments in the D.C. metropolitan area representing 30 percent of the Bay watershed population), the governor of Virginia, and Congressman Goodlatte and Congressman Holden all asked EPA to delay the TMDL until the model is corrected. EPA has rejected all requests. In its Oct. 22, 2010, letter to Congressman Goodlatte and Congressman Holden, EPA bases its refusal to extend the comment period on the deadlines that EPA imposed on itself through Executive Order 13508 and through a settlement agreement with Chesapeake Bay Foundation. On October 25, 2010, EPA posted a general statement on “Statement on EPA Decision Not to Extend the Bay TMDL Public Comment Period” on its website.

[http://www.epa.gov/reg3wapd/pdf/pdf\\_chesbay/StatementonBayTMDLCommentPeriod.pdf](http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/StatementonBayTMDLCommentPeriod.pdf) To justify denying all requests for an extension of the comment period, this statement cites the same reasons given to the Congressmen as well as EPA’s outreach efforts and interactions with states. We disagree that self-imposed deadlines, summary overviews of the TMDL in PowerPoint, and non-public discussions with states, justify EPA’s failure to provide the public with access to the information that EPA used to make its policy choices and EPA’s failure to provide any person with adequate time to evaluate and offer comments on that information.

In these comments, we make the following five points:

**First, the undersigned support water quality protection and are taking action at the ground level to prevent pollutants from reaching waterways.** In the Chesapeake Bay watershed, agriculture and forestry organizations are among those who have made possible the significant reductions in nutrient and sediment loadings to the Chesapeake Bay that has occurred over the

past 25 years. Even EPA's data show that since 1985 the agriculture community has reduced phosphorus loadings by over 21 percent, nitrogen loadings by over 27 percent, and sediment loadings by over 24 percent.<sup>1</sup> However, as discussed below, EPA's models do not account for many agricultural and forestry practices that are currently being employed in the Chesapeake Bay Watershed to protect water quality. Thus, the Draft TMDL fails to acknowledge the success that has been achieved in the Bay by the efforts of the agricultural community and others. The undersigned recommend that the watershed jurisdictions issue TMDLs for nutrients and sediment that accurately reflect the tremendous progress that has been made and that build on that success by continuing to work with people on the ground in the watershed, rather than imposing federal mandates. We also recommend that EPA and the watershed jurisdictions consider the benefits derived from agriculture and the risk of driving agriculture out of the watershed through the TMDL.

**Second, EPA has failed to provide meaningful public review of the Draft TMDL.** The Draft TMDL does not provide the public with information on the assumptions that have been made in the modeled scenarios that led to the TMDL allocations. Thus, EPA has not provided sufficient information for the public to provide meaningful comments under either the APA or the CWA. By hiding this information, EPA also has made it difficult for policy-makers and the public to understand the magnitude of the economic and social impacts of the Draft TMDL, foreclosing a meaningful dialogue about the costs, benefits, and trade-offs among various policy choices.

In fact, the policy choices adopted in the Draft TMDL are all driven by sets of assumptions that were built into various "scenarios" that were fed into a model called "Scenario Builder," the output of which was then fed into the Chesapeake Bay Watershed Model (hereinafter "Watershed Model"). EPA turns the crank and determines if a certain scenario leads to a prediction that water quality standards will be met. If the answer is yes, then the assumptions that went into that scenario are elevated to the level of regulatory policy. Thus, in the Draft TMDL, the anonymous and unaccountable modelers who put together the various scenarios that are fed in to "Scenario Builder" are the people who are identifying the regulatory controls that

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<sup>1</sup> See EPA Presentation at the Sept. 29, 2010 public meeting on the Draft TMDL in the District of Columbia, at 23-25 (available at [http://www.epa.gov/reg3wapd/pdf/pdf\\_chesbay/dcpblicmeetingrakmods.pdf](http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/dcpblicmeetingrakmods.pdf)).

EPA is attempting to impose on the Chesapeake Bay watershed. This is not an appropriate way to make decisions that will cost billions of dollars.

Further, the draft TMDL is actually 552 separate and individual TMDLs, each with their own unique and distinct features, impacts, and legal basis and authorization. For many of these individual TMDLs, the impacts will be felt only by a very few individuals or local communities, who will have an unprecedented level of federal control over the ownership, operation, use and enjoyment of their land which in some cases will no longer be allowed to be utilized in the fashion they and generations of their family before them have utilized. While EPA is correct to provide an opportunity to comment on the entire Chesapeake Bay TMDL - though 45 days is simply inadequate - in addition the agency must also provide a separate opportunity for public notice and comment on each of these 552 separate and distinct rulemakings.

**Third, the Draft TMDL is arbitrary and capricious.** The TMDL allocations are based on data that EPA acknowledges are flawed. EPA acknowledges that the allocations are likely to be revised in 2011 when better data on the application and effectiveness of agriculture nutrient management plans and better data on the extent of impervious surfaces in suburban development are incorporated in the Chesapeake Bay watershed model. Yet, EPA plans to proceed to issue a TMDL that will have real regulatory consequences notwithstanding the fact that EPA knows it is inaccurate.

**Fourth, the Draft TMDL is contrary to law.** EPA is attempting to exceed its CWA authority in the Draft TMDL. In the Draft TMDL, EPA asserts that it has the authority to issue a TMDL over the objections of a watershed jurisdiction, even though it has not gone through the formal process set forth in the CWA of disapproving a state TMDL. In the Draft TMDL, EPA has disapproved state watershed implementation plans (WIPs) and is threatening to take action against watershed jurisdictions based on that disapproval, even though EPA has no authority to approve or disapprove WIPs. In the Draft TMDL, EPA is arrogating to itself the authority to implement a TMDL by giving wasteload allocations to every source it can identify, including 1006 individual residences, even though EPA has no authority to implement a TMDL that requires reductions from both point sources and nonpoint sources to meet water quality standards.

**Fifth, the Draft TMDL, if implemented, would result in substantial and widespread economic and social impact.** The Draft TMDL relied on E3 scenarios (Everything, by Everyone, Everywhere) to achieve the pollutant reductions called for in its backstop allocations even though EPA admits that the E3 scenarios are not realistic and are not constrained by economic or technical feasibility. As a result, EPA has proposed pollutant reductions that are not realistic. In fact, EPA had previously determined that the water quality standards for the Chesapeake Bay were not attainable and a use attainability analysis (UAA) was needed. This action would have followed the recommendation of the National Research Council of the National Academy of Sciences (NAS) in its 2001 report: “Assessing the TMDL Approach to Water Quality Management” (NAS 2001). In that report, the NAS recommended that states or EPA first determine whether water quality standards are attainable, before developing a TMDL. NAS 2001, at 94. Unfortunately, EPA abandoned its UAA for the Chesapeake Bay. If it establishes a final TMDL without going through this analysis, EPA will be issuing a TMDL that cannot meet water quality standards, and therefore cannot meet the requirements of the statute.

To date, for the Chesapeake Bay, EPA has only considered changes to water quality standards when modeling has showed the standards are not achievable even if EPA could turn the clock back to the 1600s and impose complete reforestation on the Chesapeake Bay watershed. However, EPA should allow watershed jurisdictions to look at economic and social feasibility as well. For example, the Draft TMDL would result in significant adverse impacts on agricultural production, with significant impacts on the availability of affordable food.

We are not advocating that watershed jurisdictions walk away from water quality improvements. However, a watershed jurisdiction may determine that achieving water quality standards for all three pollutants in 92 segments all the time would cause substantial and widespread economic and social impacts, but that water quality standards could be met in most areas most of the time with far less impact. This analysis is critical to the development of the Chesapeake Bay TMDL.

#### **I. AGRICULTURE AND FORESTRY HAVE MADE AND CONTINUE TO MAKE SIGNIFICANT CONTRIBUTIONS TO IMPROVEMENTS TO WATER QUALITY IN THE CHESAPEAKE BAY.**

Modern agricultural and forestry practices have significantly reduced agriculture’s and forestry’s environmental footprint. Agriculture has improved our overall environmental



efficiencies and the use of crop inputs is declining. No-till farming has lessened soil erosion and stored carbon in the soil. Farmers produce more milk today from far fewer cows. Farmers are also producing more meat on less feed from the same number or fewer animals. Nitrogen use efficiencies have consistently improved. Agriculture and forestry best management practices (BMPs) are reducing runoff. In state after state, our track record is one everyone should be proud of.

The Natural Resources Conservation Service (NRCS) of the US Department of Agriculture recently released a review draft of a report evaluating agriculture's conservation and natural resource performance in the Chesapeake Bay. *See* "Assessment of the Effects of Conservation Practices on Cultivated Cropland in the Chesapeake Bay Region," October 2010, NRCS (hereinafter NRCS 2010) (attachment 1). The report offers an abundance of data and analysis about agriculture and the Bay. It found that farmers have adopted a wealth of conservation practices on the region's 4.6 million acres of cropland and, as a result, have reduced dramatically the nitrogen, phosphorous and sediment loads to the rivers and streams in the watershed and the Bay itself.

For example, NRCS found that farmers were actively implementing erosion control and nutrient management practices on about 96 percent of the cropland acres in production over the 2003 to 2006 period. These practices included various forms of erosion control involving no-till or minimum tillage, and structural and vegetative management practices like contour farming, grass waterways and filter strips. Nutrient use is being actively managed by farmers who are complying with important elements of standard nutrient management planning. As a result of these practices being used on 96 percent of the cropland acres in production, the NRCS found that sediment pollution of the region's rivers and streams is being reduced by 64 percent, nitrogen pollution by 36 percent, and phosphorous by 43 percent. The resultant loadings to the Bay were being reduced by 14 percent for sediment, 15 percent for phosphorus, and 15 percent for nitrogen. NRCS 2010, at 9.

The region's farmers are to be applauded for this enormous, proactive effort largely undertaken through voluntary, incentive-based programs and their own initiatives. This does not mean, however, that more work is not needed; it clearly is, as the NRCS report indicates. But the fact is that farmers have made an enormous commitment to adopting proper practices on farmland and as a result have made a major contribution to protecting the Bay. There is every reason to expect these efforts will continue and grow with or without the Draft TMDL.

For example, New York livestock farms are at the forefront of water quality protection. For over a decade larger livestock farms have implemented one of the most comprehensive water quality protection programs in the nation. These efforts have moved forward on the initiative of the agricultural industry. In fact, it was New York farmers that first requested the development of a concentrated animal feeding operation (CAFO) general permit by the New York State Department of Environmental Conservation (DEC). Today these efforts continue forward with farmers spending significant resources to install and establish BMPs. These efforts have not just been undertaken by large livestock farms but also by smaller farms as well. Under New York's Agricultural Environmental Management programs, thousands of smaller farms within the Chesapeake Bay Watershed and across the state are implementing important environmental BMPs to improve water quality. Indeed New York farms of all sizes continually request more funding than is made available from federal and state grants to install water quality protection BMPs. New York state recognizes the tremendous progress that agriculture and forestry have made in improving the water quality of the Chesapeake Bay. As noted in the Draft New York Watershed Implementation Plan: "The DEC has been working with both environmental and farming stakeholders in New York State for over a decade to achieve environmental compliance for all of New York State agriculture" and "[t]he success of the New York Program is clear." Draft New York WIP, at 13.

Similarly, Virginia's poultry industry has been a responsible and proactive environmental steward on a voluntary basis and through compliance with existing government regulations. Virtually all of the state's poultry farms implement nutrient management plans. At least 80 percent of poultry producers in the Shenandoah Valley have constructed sheds for storing poultry litter before it is utilized and those with or without sheds must store litter according to state regulatory criteria. The use of phytase in poultry feed has resulted in a more than 25 percent, on average, reduction in phosphorus in Virginia poultry litter. In its Draft WIP, the Commonwealth of Virginia recognizes the progress made by all agriculture and forestry organizations in Virginia. "Significant progress has been achieved to date through a variety of programs detailed in section 6.1 and specific initiatives." Draft Virginia WIP, at 57.

The state of Delaware also acknowledges the progress made by the agriculture and forestry communities. As noted in the Draft Delaware WIP: "Since the baseline period, the agriculture



community in Delaware has reduced a significant amount of nonpoint source nitrogen and phosphorus loading, leading the efforts to curtail nonpoint source nutrient loadings.” Draft Delaware WIP, at 76.

Pennsylvania’s Draft WIP is replete with examples of actions that the agricultural and forestry communities are undertaking to protect water quality. Draft Pennsylvania WIP, at section 8.

Maryland also recognizes the tremendous progress that agriculture and forestry have made in improving the water quality of the Chesapeake Bay. As noted in the Draft Maryland WIP: “Maryland agriculture loads to the Bay have been reduced significantly over the last 15 years. Implementation progress through 2009 shows a 50% decline in agricultural loads for nitrogen and a 34% decline in phosphorus loads....” Draft Maryland WIP, at 5-33.

Finally, in its Draft WIP West Virginia notes that the agriculture industry has a significant incentive to reduce runoff:

Unseen to most observers is the intimate linkage that exists between on farm natural resources and a farmer’s need to conserve and recycle resources on the farm to maintain sustainability. The agricultural producer has the most to lose by allowing nutrients, sediment, and other resources on the farm to leave the farm in runoff, thus changing on-farm resources or assets, to pollutants, or liabilities that affect the waters of the state. On the obverse, the farmer has the most to gain by keeping nutrient and soil resources on the farm and cycling through his production process, which will ultimately affect his bottom line and the sustainability of his or her operation. Draft West Virginia WIP, at 56.

As a result, “An impressive voluntary, incentive-based, agriculture nutrient management program has been underway in West Virginia for many years and should be encouraged to continue.” Draft West Virginia WIP, at 48.

Forestry activities in the United States also are now conducted under a comprehensive program of BMPs. Since the enactment of the CWA, all states with significant forest management activities have developed either regulatory or non-regulatory BMP programs under sections 208, 319, and 404 of the CWA to achieve water quality goals.

Studies have shown that nationally, the overall BMP implementation rate is 89 percent, and has been increasing steadily.<sup>2</sup> There are literally hundreds of paired watershed studies and other controlled experiments that have tested or are testing the effectiveness of contemporary forest practices and BMPs.<sup>3</sup> Some of these, such as the Piedmont Watershed Studies,<sup>4</sup> the Alto Watershed Study in East Texas,<sup>5</sup> and the Alsea Watershed Study and Watersheds Research Cooperative in Oregon,<sup>6</sup> have measured or are measuring improvements in water quality from managed forests for contemporary practices compared to historic impacts.

Today the greatest threat of deforestation comes from the conversion of forests to non-forest uses that produce a higher economic value. The families, businesses and individuals that own nearly 60 percent of our nation's forests depend on the returns they get from the products their forests produce to make additional investments in sound, long-term forest management. When existing markets for their products are strong, or when new markets like energy emerge, they provide forest owners the means to keep their land forested by keeping their forests economically competitive with other uses. However, when regulatory costs are imposed, this reduces the ability to maintain the land as forested and at some point will tip the balance in favor of the non-forest use.

As partners with agriculture and forestry, all the states in the Chesapeake Bay watershed acknowledge the contributions of these communities improving water quality in the Chesapeake Bay. Even EPA's data show that since 1985 the agriculture community has reduced phosphorus

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<sup>2</sup> Ice, G.G., E.B. Schilling, and J. Vowell. 2010. Trends for forestry best management practices implementation. *Journal of Forestry* 108(6):267-273.

<sup>3</sup> Ice, G. 2004. History of innovative Best Management Practice development and its role in addressing water quality limited waterbodies. *Journal of Environmental Engineering* 130(6):684-689; Ice, G.G. and J.D. Stednick. 2004. A century of forest and wildland watershed lessons. Bethesda, MD: Society of American Foresters; Ice, G.G., E.B. Schilling, and J. Vowell. 2010. Trends for forestry best management practices implementation. *Journal of Forestry* 108(6):267-273.

<sup>4</sup> Williams, T.M., Hook, D.D., Lipscomb, D.J., Zeng, X., and Albiston, J.W. 1999. Effectiveness of best management practices to protect water quality in the South Carolina Piedmont. 271-276 in Haywood, J.D. (ed.). *Proceedings of the Tenth Biennial Southern Silvicultural Research Conference*, Shreveport, LA, February 16-18, 1999. General Technical Report SRS-30. Asheville, NC: USDA Forest Service, Southern Research Station. 618 p.

<sup>5</sup> McBroom, M.W., R.S. Beasley, and M. Chang. 2008. Water quality effects of clearcut harvesting and forest fertilization with best management practices. *Journal of Environmental Quality* 37:114-124.

<sup>6</sup> Oregon Forest Resources Institute (OFRI). 2009. *Watershed science at work in Oregon's forests*. Special report. Portland, OR: Oregon Forest Resources Institute. <http://library.state.or.us/repository/2009/200906251557084/>.

loadings by over 21 percent, nitrogen loadings by over 27 percent and sediment loadings by over 24 percent from 1985.<sup>7</sup> Based on that information, EPA believes that the agriculture community has achieved half of the reductions it needs to make to allow the Chesapeake Bay to meet water quality standards.

Unfortunately, the Draft TMDL does not acknowledge or accurately account for contributions of agriculture and forestry to water quality. As discussed below, many of the agriculture and forestry programs discussed in the state WIPs are not accounted for in the models that led to the development of EPA's Draft TMDL. Thus, the Draft TMDL does not give agriculture and forestry credit for the reductions they have achieved. EPA also fails to acknowledge that agriculture and forestry reductions have been achieved largely through state regulatory and voluntary programs, without federal regulation.

Instead of letting states build on that success, EPA is attempting to impose a top-down, federal regulatory approach on the agriculture and forestry communities. Thus, it appears that EPA's proposals are attempts to drive livestock and agricultural operations out of the Chesapeake Bay region through unnecessary and overly burdensome regulation. In fact, by attacking efficient practices, such as increasing crop yields by using nutrients or increasing animal production efficiencies, EPA may impede agriculture's progress as a steward of the environment.

## **II. EPA HAS PROVIDED INADEQUATE NOTICE OF AND OPPORTUNITY TO COMMENT ON THE DRAFT TMDL.**

As noted above, many of the undersigned organizations, as well as others, have asked EPA to extend the period of time available to comment on the Draft TMDL. Forty-five days is simply insufficient to provide meaningful public review of the Draft TMDL. However, it is not only the length of the comment period that is inadequate. EPA also has failed to provide the public with sufficient information to make meaningful comments.

### **A. Forty-Five Days is an Inadequate Comment Period for the Draft TMDL.**

As noted above, EPA acknowledges that the "Chesapeake Bay TMDL is the largest, most complex TMDL in the country, covering a 64,000-square-mile area in seven jurisdictions."

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<sup>7</sup> See EPA Presentation at the September 29, 2010 public meeting on the Draft TMDL in the District of Columbia, at 23-25 (available at [http://www.epa.gov/reg3wapd/pdf/pdf\\_chesbay/dcpublimeetingrakmods.pdf](http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/dcpublimeetingrakmods.pdf)).

Draft TMDL, at 2-7. In this TMDL, EPA is proposing two separate sets of load allocations and waste load allocations for three pollutants in 92 water body segments. See Draft TMDL, at Appendix Q. Thus, the Draft TMDL consists of 552 separate TMDLs.

These TMDLs include allocations for 1,006 individual residences, by individually naming the homeowners in Appendix Q. The Draft TMDL also would impose allocations on small entities that raise one or more animals, but are not large enough to require a permit under the Clean Water Act. According to the U.S. Department of Agriculture, in 2002 there were a total of 111,692 livestock operations of all sizes in Virginia, West Virginia, Maryland, Delaware, Pennsylvania, and New York. In 2001, EPA estimated the total number of animal feeding operations with 300 animal units or more in these states to be 4,360. While these are statewide numbers, and the number of operations in the Chesapeake Bay watershed will be smaller, these numbers indicate that a very large number of small livestock operations could be affected by the Draft TMDL. At this point, the potentially affected small farms are not individually listed in the Draft TMDL, but the threat to subject them to federal regulation is there.

Further, the Draft TMDL that EPA made available for review on Sept. 24, 2010, consists not only of these wasteload and load allocations, but also consists of detailed implementation instructions directed at the watershed jurisdictions. Thus, the Draft TMDL consists not only of the 370 pages of the Draft TMDL document, but also the 1,672 pages of the 22 appendices, as well as the technical analysis and modeling information that is referenced throughout the draft TMDL.

Although the APA does not specify the length of a comment period, it must be reasonable. Executive Order 12866 provides that most rulemakings "should include a comment period of not less than 60 days." Given the economic and social significance of the Chesapeake Bay TMDL, 45 days is an insufficient period of time for affected members of the public to learn about, evaluate, and comment on the Draft TMDL.

In denying the request of Congress Goodlatte and Congressman Holden for an extension of the public comment period, EPA cites the deadlines that EPA imposed on itself through Executive Order 13508 and through a settlement agreement with the Chesapeake Bay Foundation (CBF). An Executive Order is within the control of the Obama administration and can be changed. With

respect to the Dec. 31, 2010, deadline agreed to by EPA in a settlement agreement with the CBF, we respectfully submit that it is clear that this deadline does not provide for meaningful public comment and should be changed. In fact, because the deadline is in a settlement agreement and not a judicial consent decree, EPA need only ask CBF to agree to an extension. Even if CBF is unwilling to agree to a modification of the settlement agreement, the only remedy CBF has under that agreement is to reinstate its lawsuit against EPA, a position we believe is without merit.

EPA denied all other requests for an extension of the comment period on October 25, 2010, by posting a “Statement on EPA Decision Not to Extend the Bay TMDL Public Comment Period” on its website.

[http://www.epa.gov/reg3wapd/pdf/pdf\\_chesbay/StatementonBayTMDLCommentPeriod.pdf](http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/StatementonBayTMDLCommentPeriod.pdf) In addition to the reasons given to the Congressmen, this statement relies on EPA’s outreach efforts and interactions with states to justify a 45-day comment period.

Self-imposed deadlines, summary overviews of the TMDL in PowerPoint presentations, and non-public discussions with states, do not justify EPA’s failure to provide the public with access to the information that EPA used to make its policy choices and EPA’s failure to provide any person with adequate time to evaluate and offer comments on that information. Thus, the reasons provided by EPA for refusing to extend the period of time for the public to comment on the Draft TMDL are without merit.

B. EPA Has Not Provided Sufficient Access to the Documents and Data that Support the Draft TMDL.

The APA requires agencies to provide the public with the opportunity to comment on their actions. 5 U.S.C. 553(c). In order to provide for meaningful public comment under the APA, agencies must disclose the data or other material that the agency relies on to make a final decision. Participation is not meaningful if an agency bases its action on information that is not available to the public. *United States v. Nova Scotia Food Prods. Corp.*, 568 F.2d 240 (2d Cir. 1977). In taking a final action, such as establishing a TMDL, an agency must be able to support that action based on evidence that is before the agency. *Motor Vehicle Mfrs. Ass’n v. State Farm Mutual Insurance Co.* 463 U.S. 29 (1983). In reviewing an agency decision, a court will only

look at information that is in the record. *Florida Power & Light Co. v. Lorion*, 470 U.S. 729, 743-44 (1985).

1. EPA Has Not Provided Sufficient Access to the Documents Relied Upon to Develop the Draft TMDL.

EPA has not followed the requirement to provide a meaningful opportunity to comment on the Draft TMDL. Much of the information that EPA has relied upon in developing the TMDL is not in the administrative record. In fact, one of the 22 appendices to the Draft TMDL is a 16-page “Index of Documents Supporting the Chesapeake Bay TMDL.” Draft TMDL at Appendix B. This index states that: “For each listed document, full reference citation (in the case of a formal publication) and URL address for direct web-based electronic access to the document *will* be provided.” “In the case of reference to data, the data repository and the URL address for direct electric access to the data *will* be provided.” Draft TMDL, App. B, at 1 (emphasis added). EPA acknowledges that Appendix B currently does not provide access to all the documents listed: “The final Bay TMDL will include a more comprehensive and complete index of documents.”

Providing data to the public after a final decision is made deprives the public of a meaningful opportunity to comment on an agency’s proposed action. The items listed in Appendix B without providing public access include, among other things:

- “Links to all Bay models independent scientific peer reviews and supporting documentation.”
- “All STAC sponsored monitoring review workshops proceedings.”
- “All the documents produced during the MRAT process.”
- “Link to the CBP sampling and analysis protocols and procedures manual(s).”
- “Malcom Pirnie’s Tech Memos on the hydrological critical period.”
- “EPA technical response to Malcom Pirnie’s Tech Memos on the hydrological critical period.”

Simply listing a document in an appendix to the Draft TMDL and then including that list in the administrative record does not provide meaningful public comment. EPA’s record for the Draft TMDL fails to meet the requirements of the APA.

2. EPA Has Not Provided Sufficient Access to the Data Relied Upon to Develop the Draft TMDL.



Among the most significant pieces of information relied upon by EPA to develop the Draft TMDL are the inputs to and outputs from a model called “Scenario Builder.” EPA relied on these inputs to determine the assumptions under which the model predicts that water quality standards will be met. EPA then incorporated those assumptions into the Draft TMDL. *See* Draft TMDL, section 8 and Appendix H.

Scenarios representing different nutrient and sediment loading conditions were run using the Chesapeake Bay Phase 5.3 Watershed Model and the resultant model scenario output was fed as input into the Chesapeake Bay Water Quality Model to evaluate the response of critical water quality parameters, specifically dissolved oxygen, water clarity, underwater bay grasses and chlorophyll *a*. Draft TMDL, Appendix H, at 1.

For EPA’s backstop allocations, EPA used the same process in reverse, first establishing the allocations, and then trying to find a combination of scenarios that could achieve the allocations:

After applying all the backstop allocations that EPA determined were necessary, EPA ran the combination of specific practices and allocations through the Scenario Builder, Watershed Model and WQSTM to ensure that the allocations provided in the Chesapeake Bay TMDL would result in attainment of WQS. Draft TMDL, at 8-5.

To allow for meaningful public review of the Draft TMDL, EPA must make available to the public the data and scenario results that are the inputs and outputs of the “Scenario Builder” model that provides inputs to the Chesapeake Bay Watershed model. EPA has not done so.

The Draft TMDL purports to provide information on Scenario Builder: “Additional information related to Scenario Builder and its application in Bay TMDL development (USEPA 2010d) is at <http://www.chesapeakebay.net/modeling.aspx?menuitem=19303>”. Draft TMDL, at 4-33 and 5-26. However, no information on Scenario Builder is available at that link. By chance, we were able to find a link to the Scenario Builder documentation in the caption to figure 5-12 on page 5-26 of the Draft TMDL. *See* C. Brosch, “Estimates of County-Level Nitrogen and Phosphorus Data For Use in Modeling Pollutant Reduction, Documentation for Scenario Builder Version 2.2 (September 2010) (hereinafter Brosch 2010). However, that documentation does not provide the specific inputs to and outputs from the model that were relied upon by EPA to develop the TMDL, as described above. Further, that document makes it clear the Scenario Builder model is not available for public review. In fact, it is still under development. Brosch 2010, at 8.

Watershed jurisdictions may have been provided with scenario inputs and outputs when they were developing their draft WIPs. However, that information is not available to the public on any of the websites that are referenced in the Draft TMDL. In fact, EPA's primary modeling website states that scenario data and Phase 5 scenario results are "coming soon." *See, e.g.,* <http://ches.communitymodeling.org/models/CBPhase5/index.php> (accessed Nov. 8, 2010).

Further, while EPA has provided outside reviewers with the code for its Watershed Model, until last week, EPA has provided no opportunity to review the Scenario Builder model, even though that model provides all the inputs to the Watershed Model. Thus, no one outside EPA has had the opportunity to evaluate the Scenario Builder model by running it themselves. Instead, it has been a black box.

On Nov. 2, 2010, six days before the end of the comment period for the Draft TMDL, James Curtin of EPA's Office of General Counsel made links to the scenario data and scenario results available to four persons, via an email. We have not been able to find those links in the administrative record for the Draft TMDL. In addition, the websites listed link to the Chesapeake Bay Program website, not the EPA Region III website that offers the opportunity to review and comment on the Draft TMDL. Thus, it does not appear that the public has been provided with this information. Further, six days is clearly insufficient to review the code for the Scenario Builder model and the inputs to and outputs from the model that were used to develop the Draft TMDL. Accordingly, the Nov. 2, 2010, email from Mr. Curtin does not cure EPA's failure to provide the public with notice of and a meaningful opportunity to comment on the Draft TMDL.

EPA's failure to make adequate information about this important model available for public review is not only a violation of the APA, as discussed above, it is a violation of 40 C.F.R. 130.7(c)(1)(ii), which requires that calculations used to establish TMDLs be subject to public review. To cure these deficiencies in providing the public notice of and an opportunity to comment on the Draft TMDL, EPA must make the Scenario Builder model, as well as all the inputs and outputs used to develop the Draft TMDL, *publicly* available and reopen the comment period to allow for public comment on this critical information.

### **III. THE DRAFT TMDL IS ARBITRARY AND CAPRICIOUS.**



EPA is aware that the data supporting its Draft TMDL are based on flawed assumptions. Notwithstanding this knowledge, EPA intends to issue a final Chesapeake Bay TMDL on Dec. 31, 2010. If EPA proceeds as planned, this final TMDL will make allocations to both point sources and nonpoint sources based on data that EPA knows are inaccurate. If EPA finalizes the Draft TMDL without first revising its modeling, that final agency action will be arbitrary and capricious under the APA.

A. Reliance on a Flawed Model is Arbitrary and Capricious under the APA.

TMDLs are reviewable under the APA as final agency actions. *Longview Fibre Co. v. Rasmussen*, 980 F.2d 1307 (9th Cir. 1992). Under the APA, a court shall "set aside agency action, findings, and conclusions found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). Agency action is considered arbitrary or capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

Reliance on a flawed model that produces inaccurate results is considered arbitrary and capricious under the APA. If EPA's model bears "no rational relationship to the reality it purports to represent," it is arbitrary and capricious. *Columbia Falls Aluminum Co. v. EPA*, 139 F.3d 914, 923 (D.C.Cir.1998) (citations omitted) (finding EPA's decision to set a treatment standard using the toxicity characteristic leaching procedure model to be arbitrary when EPA admitted that it is not a good model of the disposal conditions to which the hazardous waste at issue would be subject).

To avoid arbitrary decision-making when using a model, an agency must be able to draw a rational connection between the factual inputs, modeling assumptions, modeling results and conclusions drawn from these results. *Sierra Club v. Costle*, 657 F.2d 298, 332-33 (D.C.Cir.1981). A reviewing court also will reverse an agency action that relies on a model, "if the model is so oversimplified that the agency's conclusions from it are unreasonable." *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1052 (D.C. Cir. 2001) (citations omitted).

When a model is challenged, EPA must provide a full analytic defense. *Eagle-Picher Indus., Inc. v. U.S. EPA*, 759 F.2d 905, 921 (D.C.Cir.1985). EPA must be able to explain the assumptions and methodology used in preparing the model. *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 535 (D.C. Cir. 1983).

Finally, a reviewing court will consider whether or not a model was subject to full public review when determining whether it is arbitrary and capricious.

The safety valves in the use of such sophisticated methodology are the requirement of public exposure of the assumptions and data incorporated into the analysis and the acceptance and consideration of public comment, the admission of uncertainties where they exist, and the insistence that ultimate responsibility for the policy decision remains with the agency rather than the computer.

*Sierra Club v. Costle*, 657 F.2d 298, 332-33 (D.C. Cir. 1981).

If EPA establishes the final TMDLs for the Chesapeake Bay watershed based on models that have inputs and assumptions that are not rationally connected to the results and conclusions, that have no rational relationship to the reality they are supposed to represent, and that have not been subject to full public review, while failing to admit the model's uncertainties, the final TMDLs will be arbitrary and capricious.

B. EPA is Aware That It Is Relying on Inaccurate Information.

EPA is aware of the deficiencies of its modeling. While EPA claims that its model is "accurate and reliable," Draft TMDL at 5-1, the agency knows that this is not a true statement. In fact, later EPA states that its models are uncertain "best estimates." Draft TMDL, at 5-15.

In fact, as discussed below, EPA's models are not even best estimates because the agency knows today that it is relying on inaccurate information. Nonetheless, EPA plans to finalize the TMDL without addressing these issues. See letter dated June 11, 2010, from Shawn Garvin, Regional Administrator, EPA Region III, to the Principal's Staff Committee (discussing EPA's plans to update the model to address known flaws in 2011, *after* the TMDL is established). EPA made this decision even though it acknowledges that the allocations in the TMDL are likely to be revised in 2011 when better data on the application and effectiveness of agriculture nutrient

management plans and better data on the extent of impervious surfaces in suburban development are incorporated in the Chesapeake Bay watershed model. *Id.*

The watershed jurisdictions agree that the TMDL will necessarily change. According to the State of Maryland: “Given significant time constraints and limitations of current data and models, it is almost certain that the TMDL allocations associated with this Phase I Plan will change during Phase II.” Draft Maryland WIP, at ES-2.

Pennsylvania notes that subdividing loads into a finer scale (by county) “cannot be initiated until EPA completes revisions to the phase 5.3 Chesapeake Bay watershed model.” Pennsylvania Draft WIP, at 7. According to New York, “[d]ue to past and potential future revisions of the draft nutrient and sediment load allocations and the short time frame to prepare this Draft Phase I WIP” “it is not practical to establish specific nutrient reduction expectations, such as Waste Load Allocations for individual discharges in this Draft Phase I WIP.” Draft New York WIP, at 8.

Notwithstanding the fact that its model does not support such decisions, EPA has proposed a Draft TMDL that allocates loadings at a very fine scale. Draft TMDL, section 8 and Appendix Q. These fine-scale load allocations are not supported by data or EPA’s models and thus are arbitrary and capricious. To justify its actions, EPA states that: “In no case, does EPA anticipate any likelihood of a jurisdiction ‘over-controlling’ between now and 2017 in this first phase of planning and implementation.” *Id.* This statement is not true because EPA has expressly set aside 5 percent of the allocations to account for problems with its model. Draft TMDL, at 6-15 to 6-16. This temporary reserve is to cover the contingency that the 2011 changes to the model result in more stringent allocations. However, we believe that once the model fully accounts for best management practices employed by the agriculture and forestry community, the allocations to those sectors will become less, not more, restrictive. Thus, the Draft TMDL includes at least 5 percent over-control even using EPA’s data.

In addition, EPA’s claim that it is not over-controlling pollutant sources completely ignores the fact that the Draft TMDL includes 480 pages of individual allocations to thousands of sources and that, for point source dischargers, those allocations will have significant regulatory consequences. Those consequences will occur immediately for any source that needs a new permit or needs to renew a permit. Unless EPA is planning to shut down the NPDES permitting

program (which itself would have dire consequences) the TMDL that EPA plans to establish on Dec. 31, 2010, will have an immediate and direct impact on dischargers in the Chesapeake Bay watershed, including possible over-control. The impact could fall particularly hard on small sources that EPA may seek to designate as point sources, such as small animal feeding operations. In addition, to the extent that dischargers need to rely on credits from nonpoint sources to meet the wasteload allocations of the TMDL, the inaccurate loadings attributed to the agriculture and forestry community will reduce the availability of credits, as well as a state's ability to accurately calculate the amount of a credit.<sup>8</sup>

EPA also obfuscates the inaccuracies in its model by failing to acknowledge its inherent uncertainty. External reviewers have repeatedly recommended that EPA acknowledge the uncertainty in its models. Scientific and Technical Advisory Committee, Chesapeake Bay Watershed Model Phase V Review (Feb. 20, 2008), at 3, 8 (hereinafter 2008 STAC review). Instead of acknowledging uncertainty, however, EPA claims that: "Because of the amount of data and resources taken to develop, calibrate, and verify the accuracy of the Bay models, the uncertainty of the suite of models is minimized." Draft TMDL, at 5-1. This statement is patently absurd as a matter of statistical and modeling science. Estimates derived from any model or body of data always involve a degree of uncertainty, and the responsible modeler or statistician uses the underlying data and the model to specify how much uncertainty there is in the resulting estimates. Good modeling science never entails creating models whose estimates are not uncertain; it involves using science to define the amount of inevitable uncertainty that is present in any model's estimates. But in the case of the Bay models, EPA not only has not defined the degree of uncertainty present in the estimates derived from the individual sub-models, it is ignoring the fact that when you bring such sub-models with unknown uncertainty together, the resulting combined estimates necessarily have even **greater degrees of uncertainty, again of unknown dimensions.**

C. The Inputs to EPA's Watershed Model Are Not Rationally Connected to the Results and Conclusions.

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<sup>8</sup> The state of Maryland believes that there will be a substantial shortage of agricultural offsets since there are few well established BMP options to cost-effectively achieve substantial load reductions beyond those already targeted for the agricultural sector. Draft Maryland WIP, at 3-5.

We are very concerned that the inputs to EPA's Watershed Model do not accurately reflect pollutant loadings to the Chesapeake Bay. The inputs to EPA's Watershed Model are based on a stand-alone pre-processor called "Scenario Builder." Scenario Builder quantifies nutrient loads based on different assumptions and then allocates them spatially and temporally across the Chesapeake Bay watershed. This information is then fed into the Watershed Model and is used to allocate pollutant loadings to different sources and sectors.

EPA has not made the inputs to and the outputs from Scenario Builder available for public review. This issue is particularly important to the undersigned, because Scenario Builder is being used to estimate loadings from and establish allocations to agriculture and forestry land uses. Draft TMDL, at 5-26. Based on the limited information available from reviewing information that EPA has failed to include in the docket, it is clear that many inputs to the Watershed Model are not accurate.

For example, based on recent United States Geological Service (USGS) data, the amount of impervious surface in the watershed may be more than twice as much as what EPA has assumed in its model. See [http://archive.chesapeakebay.net/pubs/calendar/47751\\_10-28-10\\_Handout\\_2\\_11032.pdf](http://archive.chesapeakebay.net/pubs/calendar/47751_10-28-10_Handout_2_11032.pdf). Some of that land may be in the model as forests or agricultural land. According to West Virginia:

The state of West Virginia must work to verify and correct agricultural practices and land uses that are misrepresented in the Chesapeake Bay Model. It is believed that a significant amount of agricultural baseline data in the model does not reflect reality causing practices that have been installed (i.e., low till and no till) to receive no credit and land uses that are over reported (such as assumed AFO land that does not exist) to appear as large agricultural loadings when they do not exist. Draft West Virginia WIP, at 82.

EPA also has made inaccurate assumptions regarding the use of nutrients by the agriculture community. In fact, at the Dec. 11, 2009, Chesapeake Bay public meeting in Wye Mills, Md., EPA acknowledged that its loading numbers for agriculture were based on "mis-information" related to fertilizer application rates. Agricultural nutrient management issues were summarized in a Briefing Paper dated April 16, 2010, prepared by David Hansen, University of Delaware, co-chair of the Water Quality Goal Implementation Team. Nutrient Management Briefing Paper

(attachment 2). This paper summarizes concerns raised by the Agriculture Work Group regarding how the model handles manure and nutrient application rates. In particular, the model assumes that excess manure is simply transferred to an adjacent county. In addition, the model assumes that manure is applied at non-nutrient management rates. *See* Nutrient Management Briefing Paper, and the presentations cited therein.

However, EPA has not corrected the deficiencies identified by the Agriculture Work Group. The model still assumes that no manure is transported out of the watershed and that manure is applied at non-agronomic rates. Draft TMDL, at 4-34; Brosch 2010. States objected to this decision rule at the April 28-29, 2010, meeting of the Principals Staff Committee. Minutes, Principals' Staff Committee Meeting, April 28-29, 2010, at 10. However, that assumption remains in the model.

Watershed jurisdictions have continued to raise this concern in the draft WIPs. For example, Delaware reports in its Draft WIP that in nine years over 655,000 tons of excess poultry litter were either relocated either out of the watershed or directed to alternative use projects. Draft Delaware WIP, at 80. Delaware also reports that 100 percent of Delaware farmland is required to have a nutrient management plan. *Id.* at 94. According to New York State, CAFOs in the New York portion of the Chesapeake Bay Watershed do not have excess manure because they are in compliance with nutrient management practices. Ammonia losses also are controlled. Draft New York WIP, at 17. In Pennsylvania, all agriculture operations that generate manure are subject to nutrient management requirements. Draft Pennsylvania WIP, at 61. Moreover, all Chesapeake drainage county conservation districts in Pennsylvania report the export of manure from the county, of which 227,527 tons left the Chesapeake Bay watershed. *Id.* at 85. In West Virginia, NRCS has worked with the West Virginia conservation districts to implement a successful litter transfer program. Draft West Virginia WIP, at 63. Thus, EPA's modeling assumptions regarding manure transport and nutrient application rates are inaccurate and any TMDL based on those assumptions is arbitrary and capricious.

Another concern is the failure of the model to account for agriculture BMPs. This issue is raised in many of the state WIPs. Currently, only cost-shared BMPs are accounted for in the model, failing to account for voluntary and regulatory BMPs. Maryland now has information on all BMPs, but those data have not been included. Draft Maryland WIP, at 6-3. Similarly, Virginia

is developing better data on BMP implementation to address “the growing recognition that farmers are voluntarily implementing significant quantities of priority practices and other BMPs without acceptance of incentives from state or federal programs.” “In other cases, there are practices in place currently required by laws and regulations which have not been fully accounted for in state progress reporting.” Draft Virginia WIP, at 59. According to West Virginia: “Farmers in West Virginia have historically worked to maintain and improve water quality on their operations. Many farmers also install practices without federal or state cost share dollars and these were unaccounted for by the state of West Virginia or the Chesapeake Bay Program.” Draft West Virginia WIP, at 67. The Draft Pennsylvania WIP raises the same concerns:

A significant number of agricultural and other best management practices that have been implemented in Pennsylvania have not been ‘tracked’ and entered into the Chesapeake Bay Model. A significant level of interest in this deficiency was expressed by Pennsylvania’s Agricultural Watershed Implementation Plan workgroup. Pennsylvania pilot project efforts in Lancaster and Bradford counties, as well as preliminary evaluation of data from NASS indicates that as much as 84 percent of some implemented BMPs have not been entered into the Bay model, resulting in potentially significant nutrient and sediment reductions not being accounted for in the reductions attributable to Pennsylvania. Draft Pennsylvania WIP, at 73.

The same concern is raised regarding forestry BMPs. According to Pennsylvania, “[m]any of the forested acres are managed with best management practices that are not currently recognized or counted in the Bay model.” Draft Pennsylvania WIP, at 115. In reality, forestry BMPs are implemented on about 89 percent of forested lands.<sup>9</sup> Generally, implementation rates are increasing over time.<sup>10</sup> Further, these BMPs can reduce pollution loads to streams by as much

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<sup>9</sup> Ice, G.G., E.B. Schilling, and J. Vowell. 2010. Trends for forestry best management practices implementation. *Journal of Forestry* 108(6):267-273.

<sup>10</sup> Ice, G.G., E.B. Schilling, and J. Vowell. 2010. Trends for forestry best management practices implementation. *Journal of Forestry* 108(6):267-273; National Council for Air and Stream Improvement, Inc. (NCASI). 2009. *Compendium of forestry best management practices for controlling nonpoint source pollution in North America*. Technical Bulletin No. 966. Research Triangle Park, N.C.: National Council for Air and Stream Improvement, Inc.

as 80 to 90 percent.<sup>11</sup> Yet, EPA's model does not include the benefits of currently implemented forestry BMPs.

EPA's model also makes inaccurate assumptions regarding runoff. For example, EPA assumes that 15 percent to 21 percent of all manure at animal feeding operations (AFOs) is not managed properly and is left on impervious surfaces where it runs off into the Bay. Draft TMDL, at 4-34. EPA provides no basis for assuming that 100s of tons of manure are "lost" and assuming that the "lost" manure is applied at the edge of streams where it immediately runs off into tributaries of the Chesapeake Bay. *See* Brosch 2010, at 6-49.

With respect to runoff from forested lands, the Watershed Model differentiates between harvested and un-harvested forest lands and makes greatly different assumptions regarding runoff of nitrogen, phosphorus, and sediment. Draft TMDL, at 4-39. However, according to Pennsylvania, "the model is fundamentally flawed" because "even a clear-cut forest using no BMPs would not load nutrients and sediments at 100 percent as if it were a paved parking lot." Draft Pennsylvania WIP, at 115. Further, Pennsylvania believes that the efficiency rate for forestry BMPs should be much greater. *Id.* at 116. It appears that for the forestry BMPs that the model assumes will be implemented in the future, Scenario Builder credits them with only a 50-60 percent efficiency rate. Brosch 2010, at 10-108. These efficiencies are not consistent with available data, including the data cited by EPA in Brosch 2010. The result is that the forest management scenarios used in the Bay Watershed Model will lead users to incorrectly conclude that forest management is a significant source of nutrient and sediment pollution, leading to inaccurate allocations in the TMDL.

It also appears that EPA's models treat forests differently based on who owns the land, rather than how it is being managed or whether it is being harvested. Specifically, it appears that publicly owned forests received different assumptions than privately owned forests. Brosch 2010. EPA offers no justification for this arbitrary distinction.

States also have raised concerns about the efficiencies assigned to agriculture BMPs. Draft West Virginia WIP, at 70.

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<sup>11</sup> Ice, G. 2004. History of innovative Best Management Practice development and its role in addressing water quality limited waterbodies. *Journal of Environmental Engineering* 130(6):684-689



Empirical research has demonstrated that the assumptions that EPA is using in its modeling are inaccurate. Dr. Kathy Boomer of the Smithsonian Environmental Research Center has compared sediment losses predicted by the Revised Universal Soil Loss Equation (RUSLE), with actual losses measured at over 100 locations in the Chesapeake Bay. Dr. Boomer found that the predicted losses exceeded the actual losses by over 100 percent. Dr. Boomer concludes that all variations of this model are not reliable tools for predicting sediment loss. Boomer et al.: USLE-based Empirical Models Fail to Predict Sediment Discharges, *J. Environ. Qual.* 37:79–89 (2008). Notwithstanding this definitive study, the Scenario Builder Model uses RUSLE to predict sediment losses from a variety of land uses. *See Brosch 2010* (repeatedly citing RUSLE as a source of data).

Finally, it appears that the Watershed Model does not include any inputs associated with groundwater, the 4.5 million cubic yards of sediment that is stirred up during navigation dredging each year, or vessel discharges. The model also does not include the benefits associated with filter feeders. *See Draft New York WIP*, at 4. These inputs could have a significant effect on the outputs of the model.

Given all of these flaws, it is clear that EPA's model cannot be used to accurately reflect existing pollutant loadings or potential reductions based on implementation measures.

D. The Results Derived From the Watershed Model Have No Relationship to the Reality They are Supposed to Represent.

1. The Watershed Model Itself is Flawed.

Given the flaws in the inputs to the Watershed Model, it cannot accurately reflect the pollutant loadings to the Bay. This would be true even if the Watershed Model worked perfectly.

Unfortunately, it does not. EPA has made the Watershed Model available to the public in an uncompiled form. When a person wants to run the model, they must use a FORTRAN compiler to produce executable computer programs. However, the model produces different results when identical input data are run on different compilers. The variability can reach as high as 36 percent.

Additional examples of the flaws in the model can be found in Appendix M to the Draft TMDL. That Appendix provides spreadsheets predicting the percentage of segments that are in

nonattainment under various loading assumptions. In some cases, the model predicts that the number of segments in nonattainment will *increase* as pollutant loadings *decrease*.

Some modeling errors may be attributable to the fact that the EPA's model assumes all BMPs are intended to reduce nitrogen, when in fact many nutrient management plans are phosphorus-based. This problem with the model has not been resolved.

2. The Watershed Model Cannot Provide Accurate Information at the County or Farm Scale.

The Chesapeake Bay Watershed model provides information on the scale of individual river segments. That information is divided into counties, but that division is based on simulated information about land use types in each county. Draft TMDL, at 5-29; Brosch 2010, at 9. As a result, the model does not provide accurate information at the county level, much less the level of an individual farm. Some states addressed this issue in their WIPs by developing load allocations for sectors, not counties or localities.

These limitations were pointed out to EPA in the 2008 peer review of the Chesapeake Bay Model. The lowest level of segmentation possible in the Watershed Model is the "local watershed scale" which is 66 square miles. According to the peer reviewers:

We agree with the team that the current CBWM implementation is not appropriate for development and implementation of TMDLs at the local watershed scale. A major barrier appears to be the scale of information built into the CBWM, which is based on the county level data and river reach segmentation at the 100 cfs threshold and designed for full watershed or major tributary scale analysis. ... We believe that it is inappropriate to use the existing CBWM county and subwatershed data sets for local-scale modeling applications. Data must be disaggregated at a finer scale for local scale applications. 2008 STAC review, at 5, 6.

Notwithstanding these concerns of the peer reviewers, in its backstop allocations EPA is inappropriately using its model to allocate loadings to very small sectors and even to very small individual sources. See Draft TMDL, at Appendix Q. The results are necessarily arbitrary and capricious, given the limitations of the model.

3. The Watershed Model Outputs Are in Some Cases Demonstrably Inaccurate.

In general, in the Draft TMDL EPA assumes the results from the Watershed Model are completely accurate and can be used to make implementation decisions costing tens of billions of dollars. However, in some cases, EPA could not get the model to predict that water quality standards will be achieved, no matter what inputs EPA used. In these cases (and only in these cases), EPA admits there is a poor correlation between the model and reality. Draft TMDL, at 6-38 and 6-39. This admission allows EPA to assume away nonattainment of water quality standards.

For example, EPA's model shows persistent 1% nonattainment, no matter what assumptions are made. To address this issue, EPA redefined what attainment means. This means that EPA decided to ignore the outputs of the model when the model cannot be manipulated to show attainment. But in all other instances EPA presumes the model to be valid. Draft TMDL, at 6-11.

For example, EPA admits the Chesapeake Bay model is not reliable for predicting levels of chlorophyll *a* in the James River, the Potomac River, or the Anacostia River. Draft TMDL, at 6-40 (the model predicts nonattainment but monitoring data generally show attainment). EPA also admits that the model is not reliable for predicting levels of submerged aquatic vegetation. Draft TMDL, at 6-48 to 6-49.

When the model did not show attainment even based on an assumption of complete reforestation of the watershed, EPA scrutinized its data more closely. In those circumstances where EPA looked more closely and compared the modeled results to actual monitoring data, it found errors. (6-49).

It is arbitrary and capricious for EPA to rely on the model when it agrees with EPA's assumptions and disregard it when it does not. If the model cannot be relied on in some instances, there is no reason to assume it is valid for others.

#### 4. The Watershed Model Has Not Been Fully Calibrated.

EPA claims that the Watershed Model has been calibrated. Draft TMDL, at iv. However, that is not accurate. At a September 9, 2010, meeting of the National Research Council committee that is tasked with evaluating Chesapeake Bay TMDL implementation, committee members raised

the lack of calibration of the TMDL model as an issue. Committee Chair Dr. Kenneth Reckhow asked EPA why they did not follow the recommendations regarding model calibration made in reviews by previous NAS committees as well as the Chesapeake Bay Program Science and Technical Advisory Committee. *See* 2008 STAC review, at 3 (noting that the panel did not believe adequate calibration of the model had been achieved).

It is clear from the Draft TMDL itself that little actual calibration has occurred. For example, the water quality data used is based on data inputs to the SPARROW model from 1980, the early 1990s, and the late 1990s. EPA used the SPARROW model to estimate edge of stream data that was then used to calibrate the Chesapeake Bay watershed model. Draft TMDL, at 5-25. Thus, EPA is using results from one model to calibrate another.

Lack of calibration is due to insufficient data. The Chesapeake Bay watershed monitoring network measures the discharge of nutrient and sediment loads from only 85 sites in watersheds larger than 1,000 square kilometers. Draft TMDL, at 5-11.

Furthermore, as noted above, EPA already knows that its data inaccurately predict the amount of impervious surfaces. This is not surprising given the fact that these numbers were calibrated with actual data from only 15 counties. Draft TMDL, at 5-23.

All of the information about Chesapeake Bay water quality is modeled. The model outcomes were compared to observed data from 1991-2000. Draft TMDL, at 6-7. The calibration for dissolved oxygen and chlorophyll *a* is based on 1985 to 1994 data. *Id.* Thus, even where calibration to actual data occurred, it was not based on current data.

EPA's data on the amount of agriculture land in the watershed (as well as data on forested land, the number of sewer systems, the number of septic systems, and the amount of developed land) are extrapolated from 1990 and 2000 satellite data. These data are at direct odds with data supplied by the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS), as reported by the Natural Resources Conservation Service (NRCS) in a recent review draft report assessing the effects of agricultural conservation practices in the Bay watershed.

EPA reports that the Bay watershed has more than 87,000 farm operations and 6.5 million acres of cropland, and that agricultural lands account for 22 percent of the watershed. Draft TMDL, at

4-31. Yet NRCS cites in its report NASS data from the 2007 Census of Agriculture that indicates there are only 83,755 farms in the region, with only 4.6 million acres of cropland constituting about 10 percent of the region's land use. Pasture, hay and range land in the Bay amount to another 18 percent of the land use, at 7.7 million acres. NRCS 2010, table 1.

Other important differences exist between EPA's model estimates and those generated by NRCS for the region. For example, EPA estimates that about 55 percent of the total loads of nitrogen delivered to the Bay by all sources is coming from agriculture. Calculated from the PowerPoint presentation by Jeff Corbin to the NAS on Sept 9, 2010, slide 14 (hereinafter Corbin) (attachment 3). NRCS estimates that the amount of nitrogen coming from cropland and delivered to the Bay is on the order of 30 percent. NRCS, table 29. While some of the difference in the EPA and NRCS estimate could be due to the hay and pasture land loads that are not included in the NRCS estimate, nitrogen loss from such lands is relatively small and certainly would not account for the fact that NRCS's 30 percent estimate would have to be almost doubled to equal that of EPA's.

In the case of phosphorous, EPA estimates that about 56 percent of the total baseline load delivered to the Bay comes from agriculture (Corbin, slide 15), while NRCS estimates the amount coming from cropland to be about 24 percent. NRCS 2010, table 33. As in the case of nitrogen, phosphorous loads from hay and pasture occur, but at a rate far less than from cropland, and therefore would not explain the fact that EPA's estimate is about 2.3 times greater than that of NRCS. It is worth noting that the absolute value of NRCS's estimate of the phosphorous loadings coming from cropland and delivered to the Bay (3.54 million pounds a year), is about one half of the load allocation assigned to agriculture by EPA in the draft TMDL in total, across all 92 tributaries (6.2 million pounds).<sup>12</sup>

In the case of sediment, we have been unable to identify EPA's estimated baseline load coming from agriculture as a share of all sources in the Bay. But we do note that EPA's draft TMDL allocation to all of agriculture across the entire Bay is 3.96 billion pounds, 62 percent of all the

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<sup>12</sup> The phosphorous loading value estimated by NRCS to come from agriculture was calculated from the data presented in Table 33; 24 percent of the NRCS estimate of the total load from all sources is equal to 3.54 million pounds. The phosphorous allocation to agriculture across the 92 Bay tributaries is calculated from the draft TMDL allocations in Appendix Q1, and is the sum of all loadings assigned to agriculture and CAFOs in that table.

loads assigned to all sources for the Bay. This is significantly more than the 1.1 billion pounds that NRCS identifies as coming from cropland in its baseline condition, which represents only 8 percent of NRCS's estimate of the total sediment load from all sources, 13.7 billion pounds. This bears repeating – NRCS estimates that cropland has about 8 percent of the total baseline sediment loadings that reach the Bay, and EPA assigns to agriculture responsibility for 62 percent of the total load reaching the Bay.<sup>13</sup>

As a result of the lack of calibration of EPA's Bay model, the very real possibility exists that if EPA finalizes the TMDL sediment allocations to agriculture at the levels in the proposal, agriculture would not only have to reduce its sediment loads to zero, but would also somehow have to withdraw from the tributaries and the Bay another 2.86 billion pounds of sediment a year. The former is impossible, and the latter is absurd and nonsensical. The dearth of calibration using actual monitoring data and the gross discrepancy between NRCS data and EPA's modeled assumptions call into question all the outputs of the Chesapeake Bay Watershed model.

E. The Watershed Model and Therefore the Draft TMDL Violate the Data Quality Act.

In accordance with the Data Quality Act, EPA has developed *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency* (Information Quality Guidelines or Guidelines).<sup>14</sup> Because the models relied upon by EPA to develop the Draft TMDL are not accurate, reliable, and unbiased, EPA should cease its TMDL development efforts until the flaws in its models are addressed.

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<sup>13</sup> As in the case of phosphorous, the sediment loading value estimated by NRCS to come from agriculture was calculated from the data presented in Table 26; 8 percent of the NRCS estimate of the total load from all sources is equal to 1.1 billion pounds. The sediment load allocations to agriculture and all sources across the 92 Bay tributaries is calculated from the draft TMDL allocations in Appendix Q1.

<sup>14</sup> United States Environmental Protection Agency, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency*, EPA/260R-02-008 (Oct. 2002) available at [http://www.epa.gov/quality/informationguidelines/documents/EPA\\_InfoQualityGuidelines.pdf](http://www.epa.gov/quality/informationguidelines/documents/EPA_InfoQualityGuidelines.pdf) (Information Quality Guidelines).

EPA issued its Information Quality Guidelines to ensure and maximize the quality of all disseminated information, particularly with respect to the information's objectivity, utility, and integrity. The above discussion of EPA's Chesapeake Bay modeling demonstrates that the models do not yet meet this standard. This is particularly true because the Watershed Model and Draft TMDL are "influential" information and therefore are subjected to an even more rigorous standard of quality.

1. The Draft TMDL and the Watershed Model Qualify as "Influential" Information.

"Influential" information, which is information that will have a clear and substantial impact on important public policies or private sector decisions, must "adhere to a rigorous standard of quality" and "should be subject to a higher degree of quality."<sup>15</sup> As noted in the Guidelines, information that supports policy documents, like EPA's Watershed Model and Draft TMDL, as well as information that addresses "precedent-setting or controversial scientific or economic issues" is considered influential. Further, certain "disseminated information that may have a clear and substantial impact on important public policies or private sector decisions" is also influential and subject to the higher degree of quality standard.

EPA's Watershed Model is the basis for a Draft TMDL that will result in tens of billions of dollars of expenditures to address water quality. Thus, there can be no question that the Watershed Model and the Draft TMDL are highly influential and thus, the underlying information must be of higher quality.

2. "Influential" information must pass a two-step quality test.

For "influential" information, such as Watershed Model and the Draft TMDL, EPA has adopted a two-pronged approach to ensure that influential information will meet rigorous quality standards. First, EPA determined that when evaluating environmental problems it would apply a:

*"weight-of-the-evidence" approach that considers all relevant information and its quality, consistent with the level of effort and complexity of detail appropriate to a particular risk assessment.*"<sup>16</sup>

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<sup>15</sup> *Id.* at 20.

<sup>16</sup> *Id.* at 21.

Second, EPA adapted the quality principles in the Safe Drinking Water Act Amendments (SDWA) of 1996 to ensure the objectivity of influential scientific information, as follows:

(A) The substance of the information is accurate, reliable and unbiased. This involves the use of: (i) the best available science and supporting studies conducted in accordance with sound and objective scientific practices, including, when available, peer reviewed science and supporting studies; and (ii) data collected by accepted methods or best available methods (if the reliability of the method and the nature of the decision justifies the use of the data).<sup>17</sup>

EPA has not followed its own approach for assuring that the Watershed Model and the Draft TMDL, as “influential” information, is based on “accurate, reliable and unbiased” information. As discussed above, EPA is aware that the inputs to the Watershed Model from its Scenario Builder Model are inaccurate, but EPA has ignored these flaws and has proceeded to issue a Draft TMDL that is based on flawed modeling.

3. EPA has disseminated the Draft TMDL without complying with the Information Quality Guidelines.

EPA’s reliance on the Scenario Builder model, which is still under development and has never been peer reviewed, violates the Agency’s own Information Quality Guidelines. Accordingly, EPA must cease using Scenario Builder to provide any inputs to decisions that will have permitting and other regulatory consequences.

4. Following EPA’s Information Quality Guidelines Will Improve the Integrity of the Chesapeake Bay TMDL Process.

EPA’s Information Quality Guidelines are intended to protect the integrity of information disseminated by EPA. Unfortunately, EPA’s failure to provide accurate information on water quality has undermined that credibility of the entire Chesapeake Bay TMDL effort. As noted by Virginia:

A significant concern is the nearly absolute reliance on modeling rather than looking directly at outcomes in the Bay. While this model has seen seven years of development it continues to experience fundamental flaws that call its credibility into question. Similarly, we are convinced that the manner in which it has been used for this Bay-wide TMDL assumes a level of precision far beyond what the

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<sup>17</sup> *Id.* at 22.



model is capable of and without regard for economic consequences. This ‘inputs based’ rather than ‘outputs based’ approach hurts the credibility of the overall effort. Draft Virginia WIP, at ii.

EPA should cease using Scenario Builder until it is completed, peer reviewed, and available for public review, and should cease the development of the Chesapeake Bay TMDL until the issues discussed above are addressed.

#### **IV. THE DRAFT TMDL IS CONTRARY TO LAW.**

In the Draft TMDL, EPA asserts both the authority to implement the TMDL directly and to compel states to implement the TMDL as EPA dictates. Both assertions exceed EPA’s authority under the CWA.

During the development of the Draft TMDL, EPA repeatedly assured states that EPA would establish gross load and wasteload allocations by waterbody and would leave implementation of the TMDL to the states, as set forth in the CWA. *See, e.g.,* Chesapeake Bay Program, Water Quality Steering Committee, May 18, 2009, Conference Call, Summary of Decisions, Actions, and Issues, at 6 (“Even though this is our methodology will include a wastewater v. other sources split, the states will be assigned a single number and can redistribute the load reduction responsibilities this at their discretion.” [sic]). Notwithstanding these assurances, in the Draft TMDL, EPA is asserting the authority to supersede the allocations of pollutant loadings proposed by states in their WIPs with federal allocations. Draft TMDL, at 8-2 (asserting the authority to establish draft backstop allocations for each watershed jurisdictions based on EPA’s conclusion that none of the WIPs are adequate). Further, EPA is asserting the authority to compel states to implement those allocations. Draft TMDL, at 7-11 to 7-12 (outlining the actions EPA may take to compel implementation of the federal TMDL).

As discussed below, these actions go beyond what is contemplated in the CWA. First, EPA does not have the authority to implement a TMDL. Second, EPA does not have the authority to unilaterally change state implementation plans. Third, EPA cannot compel states to take specific implementation measures. Finally, nothing in the CWA requires point sources to meet water quality standards that are infeasible. In fact, as discussed below, EPA or the states must

determine whether meeting the Chesapeake Bay water quality standards is feasible, before establishing this TMDL.

A. Under the CWA, a TMDL Does Not Include Implementation Measures.

Section 303(d) of the CWA requires states to establish TMDLs for impaired waters at levels necessary to achieve applicable water quality standards. 33 U.S.C. 1313(d). If a state fails to perform this action, EPA has no enforcement authority against the state.<sup>18</sup> Instead, in the absence of an acceptable state TMDL, EPA may act in a backstop capacity to establish a TMDL.<sup>19</sup> However, no additional authority is conferred on EPA when it establishes a TMDL. In particular, EPA is given no implementation authority beyond that which it has under other provisions of the CWA.

A TMDL is a calculation, which must be set at a level deemed necessary to meet water quality standards and which must equal the sum of any wasteload allocations and load allocations assigned to point sources, nonpoint sources, and natural background. 33 U.S.C. § 1313(d)(1)(C); 40 C.F.R. 130.2(i). A TMDL can be one number or the sum of multiple numbers. Thus, when a state establishes a TMDL, it may make wasteload allocations to individual point sources, and it may make gross load allocations, but it is not compelled to do so.<sup>20</sup> The CWA only requires that the TMDL be set at a “*level*” necessary to meet water quality standards. 33 U.S.C. 1313(d). Thus, under the CWA, only a single loading number per pollutant per water body is required.

How a TMDL is achieved, including allocating pollutant loadings, is an implementation issue left to the exclusive authority of the states, given their primary authority and expertise over on-

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<sup>18</sup> Congress may not establish a federal law that compels a state to take regulatory action. *See New York v. United States*, 505 U.S. 144, 162 (1992). (“While Congress has substantial power to govern the Nation directly,...the Constitution has never been understood to confer upon Congress the ability to require the States to govern according to Congress’ instruction.”).

<sup>19</sup> *Scott v. City of Hammond*, 741 F.2d 992, 996 (7th Cir. 1984), *cert. denied*, 469 U.S. 1196 (1985) (“[S]tate inaction amounting to a refusal to act” would be interpreted as a constructive submission of no TMDL, thus triggering EPA’s duty to approve or disapprove such submission and to establish the TMDL itself (in the event of a disapproval)).

<sup>20</sup> EPA acknowledges this point in the Draft TMDL by establishing in section 9 TMDLs that identify the gross wasteload and load allocations by for each waterbody, without attempting to allocate these loads to specific sources. Although the draft backstop TMDLs in Appendix Q for the proposed water quality standards make much finer allocations, nowhere in the Draft TMDL is an allocation to specific sources of a TMDL designed to achieve current water quality standards.

the-ground permitting and management decisions. *Sierra Club v. Meiburg*, 296 F.3d 1021, 1031 (11th Cir. 2002); *see also Amigos Bravos v. Green*, 306 F.Supp.2d 48 (D.D.C. 2004) (no implementation plan is required under section 303(d)).<sup>21</sup>

Based on the structure and language of the CWA, EPA cannot cross the line between identifying a level of pollutants necessary to meet water quality standards and establishing implementation requirements, when EPA establishes a TMDL. All matters concerning whether, when, and how to implement TMDLs are explicitly reserved for states and are not subject to EPA control. *See Pronsolino v. Nastri*, 291 F.3d 1123, 1140 (9th Cir. 2002). The TMDL is an “informational tool” to assist states in their water quality management planning. *Id.*

This conclusion is supported by both the language and the structure of the CWA and EPA’s regulations. For nonpoint sources, water quality management plans are not enforceable and are limited to plans based on measures designed to control pollution to the maximum extent practicable (33 U.S.C. 1329(a)(1)(C) (section 319 state nonpoint source management programs) or a process to identify feasible procedures and methods to control agriculture and silviculture related nonpoint sources of pollution (33 U.S.C. 1288 (b)(2)(F) (discussing state area-wide waste treatment management plans). For point sources, EPA regulations require water quality based effluent limitations in permits to be “consistent with the assumptions and requirements of any available wasteload allocation for the discharge *prepared by the State* and approved by EPA pursuant to 40 C.F.R. 130.7.” 40 CFR 122.44(d)(1)(vii)(B) (emphasis added). This regulation does not give EPA the authority to implement a federal TMDL because it only applies to TMDLs developed by states.

It also is important to note that in 2002 the Ninth Circuit found that TMDLs for nonpoint sources do not upset the federalism balance of the CWA because the *implementation* of TMDLs remains within the states' exclusive authority. *Pronsolino v. Nastri*, 291 F.3d 1123, 1140 (9th Cir. 2002). Further, as the Ninth Circuit noted: “States must implement TMDLs only to the extent that they

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<sup>21</sup> In 2000, EPA issued regulations that, among other things, would have required each TMDL to include an implementation plan. 65 *Fed. Reg.* 43586 (July 13, 2000). Congress blocked implementation of those regulations, and eventually EPA withdrew them. *See* P.L. 106-246 and 68 *Fed. Reg.* 13607 (Mar. 19, 2003). In reaching its conclusion that implementation plans are not elements of TMDLs, the *Meiburg* court noted that the 2000 regulations that would have required implementation plans were never implemented and subsequently withdrawn. 296 F.3d at 1033.

seek to avoid losing federal grant money; there is no pertinent statutory provision otherwise requiring implementation of § 303 plans or providing for their enforcement.” *Id.* See also, *Sierra Club v. Meiburg*, 296 F.3d at 1031 (“Of course, the national policy and objectives relating to clean water are most reliably embodied in the Act itself which puts the responsibility for implementation of TMDLs on the states.”).

Given Congress’s careful exclusion of EPA from state implementation of water quality standards with regard to nonpoint sources, the CWA cannot rationally be construed to confer on EPA the authority to establish a TMDL that dictates implementation mandates for nonpoint sources. Thus, the Act does not provide EPA with authority to establish a TMDL for the Chesapeake Bay that goes beyond an informational tool.

B. The Draft TMDL Exceeds EPA’s Backstop Authority.

As noted above, EPA has backstop authority to establish a TMDL when a state fails to act or establishes an invalid TMDL. However, that authority is not limitless. EPA has exceeded those limits on its authority by proposing to establish a TMDL without waiting for state action, and by proposing to establish a TMDL that encroaches on state authority.

In the context of the Draft TMDL, it appears that EPA is acting in a backstop capacity only for 23 Virginia TMDLs and 2 TMDLs for the District of Columbia. See Draft TMDL, at 1-14 to 1-16. EPA also cites a memorandum of understanding (MOU) with Maryland as authority to establish TMDLs in that state. Draft TMDL, at 1-16. However, EPA cannot change the CWA through a MOU. Finally, EPA cites its settlement agreement with the Chesapeake Bay Foundation (CBF) as authority. Draft TMDL, at 1-17. However, that settlement agreement also cannot give EPA authority that it does not have under the CWA.

EPA puts forward the argument that section 117(g) authorizes an EPA-established Chesapeake Bay TMDL because that provision directs EPA to “ensure that management plans are developed and implementation is begun.” Draft TMDL, at 1-13. EPA argues that “the Chesapeake Bay TMDL is such an implementation plan.” *Id.* This argument ignores principles of statutory interpretation. TMDLs are defined by Congress in section 303(d) of the CWA. Congress also provides definitions for management plans under various sections of the CWA. When Congress refers to nonpoint source plans developed by states, it refers to management plans. See 33

U.S.C. 1329 (discussing state nonpoint source management programs) and 33 U.S.C. 1288 (discussing state area-wide waste treatment management plans). Congress also uses the term management plan when discussing the comprehensive conservation and management plans established for estuaries of national significance under section 320 of the CWA. If Congress intended for Chesapeake Bay management plans to be considered TMDLs, it would not have used the term “management plan.”

It is black letter law that the Clean Water Act does not provide any federal authority to regulate nonpoint sources of pollutants.<sup>22</sup> To understand the scope of EPA’s authority to establish a TMDL under section 303(d) of the CWA – particularly where nonpoint sources are a significant source within the watershed – it is instructive to look at the two sections of the CWA that specifically address nonpoint source pollution. While these sections call for plans to address nonpoint source pollution, EPA is not given backstop authority.

For example, the CWA specifically addresses the circumstance where nonpoint sources prevent the attainment of water quality standards in section 319(a) of the CWA:

The Governor of each State shall, after notice and opportunity for public comment, prepare and submit to the Administrator for approval, a report which - identifies those navigable waters within the State which, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain applicable water quality standards or the goals and requirements of this chapter. 33 U.S.C. 1329(a).

In this circumstance, states develop nonpoint source management programs that identify best management practices to address nonpoint sources. 33 U.S.C. 1329(b). Section 319 allows EPA to issue the report called for in section 319(a) if a state fails to act. Significantly, however, EPA is given no backstop authority if a state fails to develop a management plan under section 319(b). Instead, a local jurisdiction may develop such a plan and receive federal 319 funds to implement it. 33 U.S.C. 1329(b).

Similarly, section 208 of the CWA directs states to develop area wide waste treatment plans that include:

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<sup>22</sup> See, e.g., *Oregon Natural Resources Council v. U.S. Forest Serv.*, 834 F.2d 842, 849 (9<sup>th</sup> Cir. 1987) (“Nonpoint sources, because of their very nature, are not regulated under the NPDES. Instead, Congress addressed nonpoint sources of pollution in a separate portion of the Act which encourages states to develop areawide waste treatment management plans.”).

a process to (i) identify, if appropriate, agriculturally and silviculturally related nonpoint sources of pollution, including return flows from irrigated agriculture, and their cumulative effects, runoff from manure disposal areas, and from land used for livestock and crop production, and (ii) set forth procedures and methods (including land use requirements) to control to the extent feasible such sources. 33 U.S.C. 1288(b)(2)(F).

Again, EPA is not given any backstop authority, although local governments can develop such management plans.

C. Under the CWA, EPA Cannot Disapprove and Unilaterally Change Watershed Implementation Plans.

Implementation plans are not part of the TMDL and are not subject to EPA approval. Section 303(d)(2) of the CWA requires states to incorporate approved TMDLs into the water quality management plans that the states maintain under section 303(e). This framework is carried through in EPA's existing TMDL regulations as well as its 1997 guidance document on TMDL implementation. *See* 40 C.F.R. 130.7(a) and "New Policies for Establishing and Implementing Total Maximum Daily Loads" (1997) (noting that "Section 303(d) does not establish any new implementation authorities beyond those that exist elsewhere in State, local, Tribal, or Federal law.").

The 1997 Guidance does call for "reasonable assurances" that load allocations will be met if relied upon to establish point source wasteload allocations, and encourages submission of implementation plans to EPA. However, the 1997 guidance does not purport to make implementation plans subject to EPA approval or to give EPA authority to require reasonable assurance. *See also* EPA's Overview of Impaired Waters and Total Maximum Daily Loads Program ("***Section 303(d) of the CWA does not specifically require implementation plans for TMDLs.***"), accessible at <http://www.epa.gov/OWOW/TMDL/intro.html>; EPA's decision rationale for approving the Tidal Potomac PCB TMDL established by the Interstate Commission on the Potomac River Basin, dated Oct. 31, 2007, at p. 12 ("***Neither the Clean Water Act nor the EPA implementing regulations, guidance or policy requires a TMDL to include an implementation plan. EPA therefore does not approve or disapprove implementation plans as part of the TMDL process.***") (emphasis added).

Thus, EPA has no authority to approve, disapprove, or change the state WIPs.

1. Section 117 of the Clean Water Act Does Not Authorize EPA Control Over TMDL Implementation.

EPA does admit that the WIPs are not part of the TMDL itself. “The WIPs are part of the accountability framework meant to implement the Bay TMDL, but they are not part of the Bay TMDL itself.” Draft TMDL, at 1-2. Further, EPA admits that: “While the accountability framework informs the TMDL, section 303(d) does not require that EPA ‘approve’ the framework *per se*, or the jurisdiction’s WIPs that constitute part of that framework.” Draft TMDL, at 1-12.

Thus, EPA does not appear to be relying on section 303(d) as the source of its authority to mandate the elements of state implementation plans for a Chesapeake Bay TMDL. Instead, EPA appears to be relying on section 117(g) of the Clean Water Act. *See* Draft TMDL, at 1-12 (“The accountability framework is also being established pursuant to CWA section 117(g)(1)”). Specifically, EPA is relying on language in section 117(g) that states that “the Administrator, in coordination with other members of the Chesapeake Executive Council, shall ensure that management plans are developed and implementation is begun by signatories to the Chesapeake Bay Agreement....”

However, in enacting 117(g) in the “Chesapeake Bay Restoration Act of 2000” (enacted as Title II of the Estuaries and Clean Waters Act of 2000 (P.L. 106-457)), Congress did **not** provide the federal government with regulatory authority to achieve the goals listed in section 117(g). The Estuaries and Clean Waters Act of 2000 merges ten water quality bills that had each passed the House of Representatives as stand-alone bills with one bill that passed the Senate. The stand-alone version of Title II was H.R. 3039.<sup>23</sup> Therefore, the following language from the committee report for H.R. 3039 provides legislative history for section 117(g):

“(g) Chesapeake Bay Program.—

(1) Management Strategies.—Directs EPA, in coordination with other members of the Council, to ensure that management plans are developed and implementation is begun by signatories to the Chesapeake Bay Agreement to achieve the goals of that Agreement. The Committee expects EPA to meet the requirements of this paragraph through the award of implementation grants under

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<sup>23</sup> *See* Cong. Rec. H7490 (daily ed. Sept. 12, 2000).

subsection (e). *Nothing in the Chesapeake Bay Restoration Act provides EPA with any additional regulatory authorities.*”

H.R. Rept. No. 550, 106<sup>th</sup> Cong., 2d Sess., at 3 (2000) (emphasis added).

Thus, section 117(g) of the Clean Water Act does not give EPA authority to approve, disapprove, or change the state WIPs. It merely authorizes the use of grant funding to “ensure” that the *states* develop and begin implementation of management plans.

2. An Executive Order Does Not Grant EPA Authority to Approve State WIPs.

EPA also cites Executive Order 13508 as authority to dictate the terms of state WIPs. “In addition, Executive Order 13508 directs EPA and other federal agencies to build a new accountability framework that guides local, state, and federal water quality restoration efforts.” Draft TMDL, at 1-12. It would be a violation of Separation of Powers for the president to grant the Executive Branch any authority through an Executive Order or otherwise. Other than a few powers granted directly by the Constitution (and not at issue here) the Executive Branch can only implement the laws that Congress has passed. It cannot create any new authority.

Thus, Executive Order 13508 does not give EPA authority to approve, disapprove, or change the state WIPs.

3. The Concept of “Reasonable Assurance” Does Not Authorize EPA Control Over TMDL Implementation.

In section 7 of the Draft TMDL, EPA claims the authority to judge state WIPs under the rubric of “reasonable assurance.” “Reasonable assurance” is a concept that does not exist in either the CWA or EPA regulations. As noted above, EPA created this concept in its 1997 TMDL guidance. Under that guidance, EPA calls for “reasonable assurances” that load allocations will be met if relied upon to establish point source wasteload allocations, and encourages submission of implementation plans to EPA. But, the 1997 Guidance does not purport to make implementation plans subject to EPA approval or to give EPA authority to dictate the terms of state plans.<sup>24</sup> Nevertheless, in the Draft TMDL, EPA goes even further than its 1997 Guidance

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<sup>24</sup> “New Policies for Establishing and Implementing Total Maximum Daily Loads” (1997) (noting that “Section 303(d) does not establish any new implementation authorities beyond those that exist elsewhere in State, local, Tribal, or Federal law”).



and asserts that a TMDL must provide reasonable assurance and that a determination whether “reasonable assurance that the TMDL’s LAs will be achieved depends on whether practices capable of reducing the specified pollutant load (1) exist; (2) are technically feasible at a level required to meet allocations; and (3) have a high likelihood of implementation within a given period.” Draft TMDL, at 7-1.

EPA claims it has the authority to require reasonable assurance under the CWA. Draft TMDL, at vii. However, the only statutory provision that EPA cites for this alleged authority is the requirement in section 303(d) that a TMDL be “established at a level necessary to implement the applicable water quality standard.” *Id.* EPA claims that “[d]ocumenting adequate reasonable assurance increases the probability that regulatory and voluntary mechanisms will be applied such that it achieves the pollution reduction levels specified in the TMDL and therefore attains WQS.” *Id.* This statement does not support any assertion of authority to require reasonable assurance. The TMDL is merely the sum of the load allocation and the wasteload allocation for a pollutant. The statute requires that the TMDL be set at a “*level*” necessary to meet water quality standards. A level is a number. Nothing in the statute gives EPA the authority to dictate whether, when, or how that level is to be met. These are matters of TMDL implementation, which is outside of EPA’s authority.

EPA also cites Executive Order 13508 as authority to require reasonable assurance. Draft TMDL, at vii. However, as discussed above, no executive order can confer any authority that the Executive Branch does not already have. EPA has no authority to require “reasonable assurance,” and Executive Order 13508 cannot create authority where none exists.

Finally, EPA cites the letters it has sent to watershed jurisdictions as the basis for “its heightened expectations for reasonable assurance in the Chesapeake Bay watershed and its basis for expecting WIPs to assist in its demonstration.” Draft TMDL, at 7-2. No letter written by EPA can grant it authority that the law does not provide. Thus, the letters from EPA to the watershed jurisdictions also provide no authority to require “reasonable assurance.”

As EPA acknowledges, the entire “accountability framework” “is not itself an *approvable* part of the TMDL.” Draft TMDL, at 7-4 (emphasis in original). Given the fact that EPA’s only authority under the TMDL program is to approve or disapprove the numeric loadings that make

up the TMDL, this statement essentially admits that EPA does not have the authority it is claiming.

D. EPA Cannot Require States To Take Specific Implementation Measures.

Notwithstanding this lack of authority, EPA is using the “reasonable assurance” framework to disapprove the state WIPs. “EPA has determined that none of the jurisdictions’ draft Phase I WIPs provided sufficient reasonable assurance that programs would be implemented to achieve the necessary pollutant load reductions.” Draft TMDL, at 8-2. Based on this conclusion, in section 8 of the Draft TMDL EPA makes unilateral changes to the state WIPs. Again, EPA has no authority to do so.

Section 8 of the Draft TMDL is titled: “Watershed Implementation Plan Evaluation and Draft Backstop Allocations.” In this section, EPA goes far beyond allocating loads and wasteloads to nonpoint and point sources. In this section, EPA attempts to bootstrap a provision of its permitting regulations to try and force TMDL implementation measures on states by “assuming” them.

As EPA points out, under 40 CFR 122.44(d)(1)(vii)(B), water quality based effluent limitations in permits must be “consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 C.F.R. 130.7.”<sup>25</sup> In section 8 of the Draft TMDL, EPA says: “This section summarizes the assumptions that are incorporated into the Chesapeake Bay TMDL ....” Draft TMDL, at 8-12. EPA then proceeds to use the word “assume” or “assumption” 59 times in an attempt to bootstrap its authority over discharge permits into far broader power to “assume” and thereby dictate a variety of implementation measures.

Through this interpretation, EPA attempts to incorporate implementation measures into the TMDL itself. For example, EPA assumes that watershed jurisdictions will issue new regulations that will regulate every animal feeding operation, regardless of the number of animals and regardless of whether or not the facility discharges:

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<sup>25</sup> Of course, the Chesapeake Bay TMDL will not be approved by EPA pursuant to 40 C.F.R. 130.7 because this TMDL is not being developed by states. Thus, it is uncertain what legal effect this regulation will have with respect to permits for point sources in the Chesapeake Bay watershed. Arguably, it has no effect.

As with stormwater point sources, in its backstop allocations EPA has included currently unregulated AFOs in the WLA portion of the TMDL. For such sources, ***EPA's draft backstop allocation is based on two assumptions:*** (1) currently unregulated sources will become regulated under the NPDES permit program some day through appropriate designation/ rulemaking/ permits; and (2) the projected sector wasteload reductions (based on NPDES effluent controls consistent with the WLA) will result in those needed reductions. Draft TMDL, at 8-11 (emphasis added).

Nothing in the CWA or EPA regulations gives EPA the authority to use EPA's permitting regulations to compel state regulatory action. In fact, as noted in footnote 18, above, such authority would violate the 10<sup>th</sup> Amendment to the U.S. Constitution. In *New York v. United States*, 505 U.S. 144 (1992), the Supreme Court struck down a provision of federal law that required States to provide for the disposal of radioactive wastes. The Court held that Congress may not "commandeer the legislative processes of the States by directly compelling them to enact and enforce a federal regulatory program. *Id.* at 161. In other words: "While Congress has substantial power to govern the Nation directly,...the Constitution has never been understood to confer upon Congress the ability to require the States to govern according to Congress' instruction." *Id.* at 162. Accordingly, the Clean Water Act and 40 C.F.R. 122.44(d)(1)(vii)(B) cannot be read to give EPA authority to make "assumptions" that a state will enact and enforce a regulatory program, and then try to enforce that "assumption" through mandatory implementation of an EPA-drafted TMDL.

E. EPA's "Consequences" Overstate EPA's Authority.

In the Draft TMDL, EPA expressly states that unless states "[d]evelop and submit Phase I, II, and III WIPs consistent with the expectations and schedule described in EPA's letter of November 4, 2009, and the amended schedule described in EPA's letter of June 11, 2010," EPA will take one or more punitive actions that were outlined in a Dec. 29, 2009, letter to watershed jurisdictions. Draft TMDL, at 7-11. This remarkably heavy-handed statement is a complete departure from the cooperative federalism that is the hallmark of the CWA. Congress sought in the CWA, "to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this Act." 33 U.S.C. § 1251(b). In

furtherance of this policy, Congress gave the *states*, not EPA, primary authority over the establishment and implementation of water quality standards under CWA section 303. *See, e.g.*, 33 U.S.C. §§ 1313(c)-(e). Even the federal permitting program for point source pollutant discharges limits EPA's control over the manner in which authorized states carry out that program. Under the CWA, authorized states carry out CWA programs in that state. EPA does not dictate the terms of how water quality standards are to be met. If EPA finds that a state is not administering the CWA permitting program properly, EPA may withdraw state authorization to administer the CWA permitting program. 33 U.S.C. 1342(c)(3). EPA has some authorities, short of program withdrawal. However, as discussed below, these authorities address specific fact patterns, not EPA disagreement with a state WIP. Each of EPA's threats listed on pages 7-11 to 7-12 of the Draft TMDL is discussed below.

1. Use of Residual Designation Authority to Require Unregulated Sources to Obtain Permits.

If EPA does not agree with a state WIP, EPA claims the authority to use residual designation authority to regulate unregulated sources in that state. As noted above, one of the assumptions EPA is making in its backstop allocations is that all AFOs are regulated sources. Presumably, EPA intends to impose this assumption on watershed jurisdictions by designating AFOs as regulated CAFOs.

EPA's authority to designate AFOs as CAFOs is governed by 40 C.F.R. 122.23(c). However, that authority is limited. First, the AFO must actually discharge pollutants.<sup>26</sup> Second, either the state or the EPA Regional Administrator must first make a determination that the particular AFO "is a significant contributor of pollutants to waters of the United States." Third, if a state is authorized to carry out the CWA permitting program (which includes every watershed jurisdiction except for the District of Columbia) then the Regional Administrator may designate an AFO as a CAFO *only if* "the Regional Administrator has determined that one or more pollutants in the AFO's discharge contributes to an impairment of a downstream or adjacent State or Indian Country water that is impaired for that pollutant." 40 C.F.R. 122.23(c)(1). EPA

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<sup>26</sup> *See Waterkeeper Alliance et al. v. EPA*, 399 F.3d 486, 504 (2d Cir. 2005); *Service Oil, Inc v. EPA*, 590 F.3d 545 (8th Cir. 2009).

will not be able to rely on its Watershed Model to make these determinations, because the model cannot predict water quality impacts at the individual facility level. Thus, EPA will have to develop site-specific data before it can make such a determination.

Notably absent from the regulation is the authority to designate an AFO as a CAFO because EPA does not agree with a state's WIP. Accordingly, EPA's claim (in both its backstop allocation and in its evaluation of state WIPs) to be able to broadly use residual designation authority against AFOs is invalid.

2. Object to State Permits That Do Not Meet the Requirements of the CWA, Including Permits With Effluent Limitations That Are Not Consistent With the Chesapeake Bay TMDL WLAs.

For sources that are already subject to the CWA permitting program, and that require a new permit or a permit renewal, EPA does have the authority to object to a permit "as being outside the guidelines and requirements of this Act." 33 U.S.C. 1342(d)(2). Grounds for objecting to a state permit are found in 40 C.F.R. 123.44. Disagreeing with a state WIP is not one of the specified grounds. However, one of the bases for objecting to a state permit is: "The effluent limits of a permit fail to satisfy the requirements of 40 C.F.R. 122.44(d)." As EPA notes, one of the requirements of 40 C.F.R. 122.44(d) is the requirement that a permit be consistent with a wasteload allocation in a TMDL prepared by a state and approved by EPA. 40 C.F.R. 122.44(d)(1)(vii)(B). Thus, if a point source receives an individual wasteload allocation in a state TMDL that is approved by EPA and the state issues a permit with effluent limitations that are inconsistent with that allocation, then EPA may object to that permit.

Thus, the question of whether or not EPA can object to a state permit on the grounds that the permit does not match a wasteload allocation given to that point source by EPA in the final Chesapeake Bay TMDL will depend on whether or not the final Chesapeake Bay TMDL is lawfully established. That will be an open question because this TMDL is not being prepared by a state and approved by EPA under 40 C.F.R. 130.7. As discussed below, in the Draft TMDL EPA is stretching its authority to issue a TMDL far beyond what it has previously asserted and beyond what courts have approved.

EPA also has claimed the authority to object to state permits if a state has failed to subject nonpoint sources to all cost-effective and reasonable best management practices, based on the requirements of an anti-degradation review under 40 C.F.R. 131.12(a)(2). However, EPA's reliance on this regulation is misplaced. This anti-degradation review is required for Tier II waters that exceed water quality standards. This review is not applicable to impaired waters that are the subject of a TMDL.

3. Require Net Improvement Offsets.

EPA has no authority to require net improvement offsets for new or increasing discharges. The only way for EPA to carry out this threat is to object to a state-issued permit and then claim that it is inconsistent with the CWA. The CWA requires effluent limitations to ensure discharges do not cause or contribute to the violation of water quality standards. A net improvement requires a source to over-control, beyond what is needed to avoid causing or contributing to a violation. A source may voluntarily over-control, to create an offset. However, nothing in the CWA allows EPA to object to a permit in order to compel a source to control discharges beyond what is necessary to ensure that the specific discharge does not cause or contribute to a violation of a water quality standard.

4. Require Finer-scale Wasteload Allocations and Load Allocations in the Chesapeake Bay TMDL Than Those Proposed By Watershed Jurisdictions in Their WIPs.

EPA has proposed "finer-scale" allocations in the Draft TMDL. "EPA is ... replacing some allocations proposed by jurisdictions; EPA is also providing finer level of detail for allocations in headwater jurisdictions...." Draft TMDL, at 8-2. In fact, EPA has proposed allocations for 1006 individual residences.

By setting wasteload allocations for individual homes, and by proposing fine-scale load allocations, EPA has overstepped its bounds and is attempting to dictate the implementation of the TMDL. As EPA notes, "there are limitless combinations of loadings." Draft TMDL, at 6-18. This statement is an admission that EPA is encroaching on state implementation authority.

As discussed above, a TMDL is merely the sum of the load allocations and the wasteload allocations. In 2002, the Ninth Circuit upheld EPA's authority to issue a TMDL for a water

body impaired only by nonpoint sources because the Court considered the TMDL to be merely "an informational tool." *Pronsolino v. Nastri*, 291 F.3d 1123, 1140 (9th Cir. 2002). The Court also recognized that specifying pollutant allocations at a fine scale is tantamount to TMDL implementation. According to the Ninth Circuit, the TMDL at issue in *Pronsolino* was within EPA's authority because:

[It] does *not* specify the load of pollutants that may be received from particular parcels of land or describe what measures the state should take to implement the TMDL. Instead, the TMDL expressly recognizes that 'implementation and monitoring' 'are state responsibilities' and notes that, for this reason, the EPA did not include implementation or monitoring plans within the TMDL. *Id.* (emphasis added).

In contrast, the Draft TMDL goes far beyond an "informational tool." It includes implementation measures and specifies pollutant loadings at a fine scale. As such, it goes beyond EPA's authority under the CWA.

#### 5. Require Additional Reductions From Point Sources.

EPA has revised the point and nonpoint source reductions proposed by the watershed jurisdictions. "EPA is making additional point source reductions and, in some cases nonpoint source reductions, as necessary to achieve Bay TMDL nitrogen, phosphorus, and sediment allocations." Draft TMDL, at 8-2.

The CWA requires that a TMDL be set at a level necessary to achieve applicable water quality standards. 33 U.S.C. 1313(d); *see also* 33 U.S.C. § 1313(b)(1)(C) (requiring effluent limitations "necessary to meet water quality standards"). The statute does not limit a state's discretion to calculate and assign wasteload and load allocations within the TMDL. However, it does not follow that EPA has the same discretion. If a water body is impaired by both point sources and nonpoint sources and water quality standards cannot be met through reductions from point sources alone, then more stringent wasteload allocations cannot be required as "necessary" to achieve water quality standards. Moreover, to threaten unreasonable and unnecessary point source limits in an effort to force state regulation of nonpoint sources and the adoption of land use controls to EPA's liking offends the fundamental policy of the CWA favoring state primacy over nonpoint sources and land use decision-making.

6. Increase and Target Federal Enforcement in the Watershed.

EPA has prosecutorial discretion to determine what sources it targets for enforcement against actual violations of the CWA. EPA does not have authority to coerce state action through unfounded enforcement measures. Thus, the threat of increased EPA enforcement against actual CWA violations should have no bearing on state TMDL implementation.

7. Condition or Redirect EPA Grants.

EPA can only give grants to states pursuant to an authorization by Congress. Congress generally spells out the purpose and terms of the grant. EPA has no authority to redirect or withhold certain grants, particularly those that are allocated based on a statutory or regulatory formula such as title VI state revolving loan fund grants and section 106 program implementation grant. Even for other grant monies, EPA cannot arbitrarily choose to withhold state funding because it does not like a state WIP. Congress appropriates money for specific purposes. For example, funding for nonpoint source management programs under section 319 of the CWA is conditioned on a state's development of a nonpoint source management program, not a WIP to implement a federal TMDL.<sup>27</sup> EPA must implement Congressional appropriations as Congress intends and lacks the authority to redirect appropriated monies to carry out its own agenda.

8. Promulgate Federal Nutrient Criteria.

EPA's authority to issue federal numeric nutrient standards is limited. Section 303(c)(4) of the Clean Water Act authorizes EPA to issue a new or revised water quality standard in a state only if EPA determines that a new or revised state standard is not consistent with the applicable requirements of the Act, or if EPA determines that a new or revised standard is necessary to meet the requirements of the Act. 33 U.S.C. 1313(c)(4). EPA has approved the water quality standards in the Chesapeake Bay states (some modifications are pending). EPA has no basis to say that federal standards are necessary because it does not agree with a jurisdiction's WIP. Thus, it cannot use this threat to coerce a state into changing its WIP.

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<sup>27</sup> Congress gave EPA authority to withhold section 319 funding under specific conditions identified under section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990. Those conditions relate to coastal zone management programs which are distinct from the state WIPs at issue here.



F. Before Issuing the Final TMDL, EPA Should Complete a Use Attainability Analysis for The Chesapeake Bay to Demonstrate that Applicable Water Quality Standards are Achievable.

Under the CWA, states are directed to establish TMDLs for impaired waters at a level necessary to meet applicable water quality standards. 33 U.S.C. § 1313(d)(1)(C). For any loading level to be “necessary” to achieve standards, it also must be able to achieve standards.<sup>28</sup> Thus, even if EPA had the authority to establish a TMDL for the Chesapeake Bay, it cannot establish a TMDL that fails to attain water quality standards. For some water body segments, EPA cannot rationally predict attainment of the applicable water quality standards even if EPA assumes that the Chesapeake Bay Watershed returns to pre-development conditions. For other water body segments, meeting water quality standards would result in substantial and widespread economic and social impacts. For these reasons, EPA should complete a use attainability analysis (UAA) for the Chesapeake Bay before establishing a final Chesapeake Bay TMDL.

1. The Clean Water Act Does Not Require Meeting Water Quality Standards That Are Technically or Economically Infeasible

The CWA does not require water bodies to achieve water quality standards that are not technically or economically feasible. For this reason, EPA’s water quality standards regulations provide a relief valve: a use attainability analysis or UAA. 40 C.F.R. § 131.10(g). If the designated use of a water body cannot be attained due to reasons such as human caused conditions (40 C.F.R. § 131.10(g)(3)), hydrologic modifications such as dredging or dams (40 C.F.R. § 131.10(g)(4)), natural conditions such as depth (40 C.F.R. § 131.10(g)(5)), or the need for controls that would result in substantial and widespread economic and social impact (40 C.F.R. § 131.10(g)(6)), then a designated use may be changed.

In 2003, EPA provided technical support for a Maryland UAA based on natural conditions in certain deep channels in the Chesapeake Bay. Maryland also developed a UAA for a federal navigation channel based on hydrologic modifications. In 2009, EPA began a UAA for the Chesapeake Bay to determine what water quality standards were feasible based on human caused conditions, natural conditions, and economic and social impacts. EPA’s original intent was to

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<sup>28</sup> The definition of “necessary” includes: “Needed to achieve a certain result or effect.” <http://www.thefreedictionary.com>. If an action will not achieve a result or effect, then that action cannot be considered necessary.

complete that UAA before issuing the Draft TMDL. The purpose of the planned UAA was two-fold. One purpose was to determine if EPA could develop a TMDL for the Chesapeake Bay that would, in fact, meet water quality standards. The second purpose was to determine if those standards needed to be changed based on the factors set forth in EPA regulations, including economic factors. *See* Chesapeake Bay Program, Water Quality Steering Committee, Jan. 12, 2009, Conference Call, Summary of Decisions, Actions, and Issues, at 4; Chesapeake Bay Program, Water Quality Steering Committee, Advance Briefing Materials for the Jan. 12, 2009, Conference Call, Attachment C, Proposed Gameplan for Preparing for the Bay UAA, at 2. The decision to include an economic analysis of affordability as part of a UAA was reiterated at the Feb. 9, 2009, conference call among Water Quality Steering Committee members. *See* Chesapeake Bay Program, Water Quality Steering Committee, Feb. 9, 2009, Conference Call, Summary of Decisions, Actions, and Issues, at 5. As part of this effort, the Chesapeake Bay Program sought to develop a scenario called “Maximum Extent Feasible” or MEF. The MEF scenario was intended to aid a UAA and was defined as an effort to quantify the “do-ability” of achieving various nutrient controls in the Chesapeake Bay, taking into account technical achievability, operational achievability, and financial achievability. *See* Chesapeake Bay Program, Water Quality Steering Committee, Mar. 9, 2009, Conference Call, Summary of Decisions, Actions, and Issues, at 1.

Inexplicably, at the April 15-16, 2009, meeting of the Chesapeake Bay Water Quality Standards Steering Committee, EPA announced that it had reversed its position and now believed that Chesapeake Bay water quality standards should remain unchanged and that no UAA was needed. EPA asserted that it would look at the need for a UAA at some point around ten years after establishing the TMDL. *See* Chesapeake Bay Program, Water Quality Steering Committee, April 15-16, 2009, Meeting, Summary of Decisions, Actions, and Issues, at 2-3. However, EPA’s decision ignores the fact that one purpose of the UAA was to determine if water quality standards were achievable, because the statute requires that a TMDL achieve standards. As a result, EPA’s TMDL will not meet the requirement of the CWA that a TMDL be established at a level “necessary” to meet applicable water quality standards. Moreover, the Sisyphean effort to meet those unattainable standards would cause substantial economic and social disruption.

2. Meeting Water Quality Standards for the Chesapeake Bay is not Technically Feasible.

EPA's model shows persistent 1% nonattainment of water quality standards, no matter what assumptions are made. In fact, EPA admits there are 11 segments that cannot meet water quality standards. Draft TMDL, at 6-36. EPA also admits that it cannot determine if the current criteria for dissolved oxygen are sufficiently protective of water quality.

It is difficult to comprehensively evaluate the protectiveness of the assessed criteria strictly based on monitoring data, because the unassessed criteria cannot be directly evaluated due to insufficient data or lack of published assessment protocols. A multi-partner effort is underway to develop criteria assessment protocols based on the available data, but those protocols will not be complete, peer reviewed and published until 2011 at the earliest. Draft TMDL, App. D, at 1.

If EPA is unable to evaluate the adequacy of dissolved oxygen criteria "due to insufficient data or lack of published assessment protocols" then the Draft TMDL is flawed because it cannot meet water quality standards. Indeed, EPA admits that it cannot demonstrate attainment under any scenarios for some water bodies. Draft TMDL, at 6-53. Despite this admission, in section 9 EPA proposes a TMDL based on those unattainable standards. Such a TMDL does not meet the requirements of the Act.

It is particularly important for EPA to determine whether the dissolved oxygen criteria for the Bay are appropriate and achievable because it appears that many of the reductions required by the Draft TMDL are being driven by dissolved oxygen levels in 4 deep channel segments. Draft TMDL, at 6-13. For dissolved oxygen, all of the other 88 segments would achieve water quality standards with higher loadings.

In fact, we believe that EPA has already acknowledged that the backstop allocations in section 8 cannot be achieved. These allocations rely in part on an "E3" level of effort. E3 is a theoretical scenario based on implementation of "everything, by everyone, everywhere." EPA itself has said is not a realistic scenario. "There are no cost and few physical limitations to implementing BMPs for point and nonpoint sources in the E3 scenario." Draft TMDL, App. J, at J-4.

"Generally, E3 implementation levels and their associated reductions in nutrients and sediment could *not* be achieved for many practices, programs and control technologies when considering physical limitations and required participation levels." *Id.* at J-4 to J-5 (emphasis added).

A UAA could establish a basis for determining whether Chesapeake Bay water quality standards can be achieved, or if the standards should be changed.

3. EPA Should Withdraw the Draft TMDL Pending Consideration of the Substantial and Widespread Economic and Social Impact of Implementation.

Even if the applicable Chesapeake Bay water quality standards could be attained in theory, they are not attainable in reality due to the substantial and widespread economic and social impact that would occur. One basis for changing a water body's designated use is a demonstration that controls necessary to attain the use would cause substantial and widespread economic and social impacts. 40 C.F.R. 131.10(g)(6). Conversely, existing law precludes the elimination of a current designated use if the use "will be attained by implementing [water quality based effluent limits on point sources] and by implementing cost-effective and reasonable best management practices for nonpoint source control." 40 C.F.R. 131.10(h)(2). EPA should determine whether the current designated uses in the Chesapeake Bay are, in fact, attainable under these standards.

We believe that it is likely that a UAA would demonstrate the substantial and widespread economic and social impacts of meeting Chesapeake Bay water quality standards will be substantial and widespread. EPA itself has estimated the cost of retrofitting developed areas to capture stormwater runoff to be \$7.9 billion a year. *See* The Next Generation of Tools and Actions to Restore Water Quality in the Chesapeake Bay: A Revised Report Fulfilling Section 202a of Executive Order 13508, at 24. The Hampton Roads Planning District Commission estimates that meeting the retrofitting requirements in the Draft TMDL would cost the ratepayers of the Hampton Roads MS4 alone \$679 million annually. *See*

[http://www.dailypress.com/news/military/dp-nws-chesapeake-bay-report-20101030\\_0.7533311.story](http://www.dailypress.com/news/military/dp-nws-chesapeake-bay-report-20101030_0.7533311.story). The New York State Department of Environmental Conservation estimates that meeting EPA's backstop allocations in the part of the Chesapeake Bay watershed that lies within New York State will cost between \$3 billion and \$6 billion. *See* <http://www.newschannel34.com/news/local/story/DEC-on-Proposed-EPA-Regulations/Xl7f-E5ImUODw2tn3MhaYQ.csp>. Officials from the panhandle of West Virginia estimate the cost of wastewater treatment plant upgrades under EPA's Draft TMDL to be between \$180 million and \$240 million. *See* <http://www.journal-news.net> (accessed Nov. 5, 2010). Officials from the

State of Virginia predict that installing BMPs on 90 percent of cropland and hay land will require the state and landowners to expend over \$890 million during the period of TMDL implementation. *See Report Prepared by the Virginia Department of Conservation and Recreation, Annual Funding Needs for Effective Implementation of Agricultural Best Management Practices (BMPs), To the Chairmen of the House Appropriations and Senate Finance Committees (Oct. 2009), at 7 (adding the state and landowner cost shares together).*

The undersigned agricultural representatives request EPA to consider all impacts before establishing the Chesapeake Bay TMDL. Specifically, we request EPA to consider the impacts of its proposed actions on our nation's continued ability to produce safe and affordable food, fiber and fuel. U.S. agriculture feeds not only the United States, but the world. Food security has become a national security issue in the face of projections from the Food and Agriculture Organization that the world population will increase from 6.8 billion people to 9.1 billion people by 2050. To feed these additional 2.3 billion people, the world will need to produce at least 70 percent more food, and some authorities place that number at closer to 100 percent. The State Department recently issued a report<sup>29</sup> on food security, which stated, "*Agriculture—including crops, livestock and aquaculture—is a powerful poverty reduction tool. According to the World Bank, for every one percent growth in agriculture, poverty declines by as much as two percent.*" Thus, EPA should consider the comprehensive and global public health implications of the actions they are taking.

While experts use the year 2050 to help define the critical growth needed in crop production, demand is growing every year, and the problems this creates are immediate and urgent. Every year the world will have to be prepared to deal with food insecurity crises. This is readily apparent this fall, with the sharp and major increases in grain, oilseed and fiber prices stemming directly from a weather disruption in a region with only about 10 percent of the world's wheat production—the Russian wheat belt. This event demonstrates that worldwide food security is highly and directly dependent on the size and reliability of the crops produced in the U.S. and the rest of the developed world.

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<sup>29</sup> United States. Dept. of State. *Global Hunger and Food Security Initiative: Consultation Document*. United States. Dept. of State. *Global Hunger and Food Security Initiative: Consultation Document N*. p., 28 Sept. 2009. Web. 13 Oct. 2010. <<http://www.state.gov/documents/organization/130164.pdf>

The State Department report further state:

*Investments in the agricultural sector also contribute to overall economic growth by increasing efficiency in the marketing chain, reducing the share of poor people's income spent on food, and enabling them to purchase other goods and services, like education, health care, and housing... Unleashing the potential of small-scale farmers and agribusinesses to produce and sell food will substantially reduce hunger and create a more resilient global food supply for everyone.*<sup>30</sup>

Given the reality of the growing world demand for food and the serious challenges it creates, the United States, as a major exporter, will have to continue a leadership role in helping the world meet its food security goals. While such challenges in no way mean that agriculture in the United States cannot or will not meet its environmental responsibilities, they do mean that policy making must proceed carefully, with sound analysis and the best science available, as well as taking fully into account food security and other critically important policy objectives and needs.

EPA has failed to quantify any costs and benefits associated with this proposed action but we believe that the Chesapeake Bay TMDL has the potential to impose very burdensome costs on agriculture in the 64,000 square mile Chesapeake Bay watershed. In fact, the Chesapeake Bay TMDL could drive significant portions of the region's agriculture out of the watershed altogether, adversely impacting food production.<sup>31</sup>

EPA should consider all of the economic and social impacts of the Draft TMDL before establishing a final TMDL. Further, the Agency should be transparent about the incremental costs and benefits of meeting water quality standards in every reach of every water body all the time. An analysis of those costs may demonstrate that there is a point where the costs of achieving those last few days of attainment outweigh the benefits, particularly if one consequence of attainment is to drive agriculture from the Chesapeake Bay watershed.

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<sup>30</sup> Ibid.

<sup>31</sup> In the case of the regulatory controls that EPA is contemplating, these concerns are not speculative. We expect that meeting the allocations in the Draft TMDL would require very aggressive efforts like those that would be necessary to meet EPA's proposed numeric nutrient criteria for Florida lakes and flowing waters. It is estimated that the controls needed to meet those criteria will cost agriculture in Florida between \$855 million and \$3 billion dollars in capital costs and between \$902 million and \$1.6 billion in annual costs. These costs are being imposed to achieve benefits that EPA estimates are only between \$2.3 and \$2.6 million a year. These cost increases will invariably be absorbed by the produce or, in some cases, passed on to consumers of Florida's fresh and processed fruits, vegetables and animal proteins, both nationwide and local.



## V. CONCLUSION

We conclude that it is not possible for EPA to establish a legally and technically defensible TMDL for the entire 64,000 square mile Chesapeake Bay watershed. This task is beyond the tools provided by the CWA. However, establishing separate TMDLs for the 92 impaired tributaries to the Chesapeake Bay is not beyond the authorities and capabilities of the individual watershed jurisdictions. The undersigned urge EPA to withdraw its Draft TMDL, address the flaws in its modeling, and work with the watershed jurisdictions to develop TMDLs for the Chesapeake Bay Watershed that are attainable without causing widespread and significant economic and social impacts on the people who live and work in the Chesapeake Bay Watershed, as well as the people who rely on the food, fiber and fuel that is produced there.

We appreciate the opportunity to submit these comments on the Draft TMDL. Please feel free to call or e-mail Susan Parker Bodine at 202-371-6364 ([susan.bodine@btlaw.com](mailto:susan.bodine@btlaw.com)) if you have any questions, or if you would like any additional information concerning the issues raised in these comments.

Agricultural Retailers Association  
American Farm Bureau Federation  
American Meat Institute  
CropLife America  
Delaware Maryland Agribusiness Association  
Empire State Forest Products Association  
Maryland Grain Producers Association  
Mosaic  
National Alliance of Forest Owners  
National Cattlemen's Beef Association  
National Corn Growers Association  
National Cotton Council  
National Council of Farmer Cooperatives  
National Farmers Union  
National Milk Producers Federation  
National Pork Producers Council  
National Sorghum Producers  
National Turkey Federation  
Responsible Industry for a Sound Environment  
South Dakota Agri-Business Association  
The Fertilizer Institute  
United Egg Producers  
USA Rice Federation

U.S. Cattlemen's Association  
U.S. Poultry & Egg Association  
Virginia Agribusiness Council  
Virginia Farm Bureau  
Virginia Forestry Association  
Virginia Grain Producers Association  
Virginia Poultry Federation